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* * * * * * * * * *  Welcome to STN International  * * * * * * * * * *

 NEWS 1      Web Page URLs for STN Seminar Schedule - N. America
 NEWS 2      "Ask CAS" for self-help around the clock
 NEWS 3  FEB 28  PATDPAFULL - New display fields provide for legal status
             data from INPADOC
 NEWS 4  FEB 28  BABS - Current-awareness alerts (SDIs) available
 NEWS 5  MAR 02  GBFULL: New full-text patent database on STN
 NEWS 6  MAR 03  REGISTRY/ZREGISTRY - Sequence annotations enhanced
 NEWS 7  MAR 03  MEDLINE file segment of TOXCENTER reloaded
 NEWS 8  MAR 22  KOREAPAT now updated monthly; patent information enhanced
 NEWS 9  MAR 22  Original IDE display format returns to REGISTRY/ZREGISTRY
 NEWS 10 MAR 22  PATDPASPC - New patent database available
 NEWS 11 MAR 22  REGISTRY/ZREGISTRY enhanced with experimental property tags
 NEWS 12 APR 04  EPFULL enhanced with additional patent information and new
             fields
 NEWS 13 APR 04  EMBASE - Database reloaded and enhanced
 NEWS 14 APR 18  New CAS Information Use Policies available online
 NEWS 15 APR 25  Patent searching, including current-awareness alerts (SDIs),
             based on application date in CA/CAplus and USPATFULL/USPAT2
             may be affected by a change in filing date for U.S.
             applications.
 NEWS 16 APR 28  Improved searching of U.S. Patent Classifications for
             U.S. patent records in CA/CAplus
 NEWS 17 MAY 23  GBFULL enhanced with patent drawing images
 NEWS 18 MAY 23  REGISTRY has been enhanced with source information from
             CHEMCATS
 NEWS 19 JUN 06  STN Patent Forums to be held in June 2005
 NEWS 20 JUN 06  The Analysis Edition of STN Express with Discover!
             (Version 8.0 for Windows) now available
 NEWS 21 JUN 13  RUSSIAPAT: New full-text patent database on STN
 NEWS 22 JUN 13  FRFULL enhanced with patent drawing images
 NEWS 23 JUN 20  MEDICONF to be removed from STN
 NEWS 24 JUN 27  MARPAT displays enhanced with expanded G-group definitions
             and text labels
 NEWS 25 JUL 01  MEDICONF removed from STN
 NEWS 26 JUL 07  STN Patent Forums to be held in July 2005

 NEWS EXPRESS  JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
             MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
             AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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FILE 'HOME' ENTERED AT 15:22:31 ON 09 JUL 2005

=> file caplus
COST IN U.S. DOLLARS                        SINCE FILE
TOTAL                                     ENTRY    SESSION
FULL ESTIMATED COST                        0.21       0.21

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FILE COVERS 1907 - 9 Jul 2005  VOL 143 ISS 3
FILE LAST UPDATED: 8 Jul 2005  (20050708/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s (rolling(w)circle(w)prob?)/bi,ab     79539 ROLLING/BI
66544 ROLLING/AB                          16416 CIRCLE/BI
15704 CIRCLE/AB                           1307617 PROB?/BI
1188469 PROB?/AB
L1          2 (ROLLING(W)CIRCLE(W)PROB?)/BI,AB

=> s (rolling(w)circle(w)amplif?)/bi,ab     79539 ROLLING/BI
66544 ROLLING/AB                          16416 CIRCLE/BI
15704 CIRCLE/AB                           172322 AMPLIF?/BI
155692 AMPLIF?/AB
L2          226 (ROLLING(W)CIRCLE(W)AMPLIF?)/BI,AB

=> s l1 or l2
L3          227 L1 OR L2

=> s l3 not 2005/py     586188 2005/PY
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L4        168 L3 NOT 2005/PY

=> s l4 not 2004/py   1226862 2004/PY
L5         89 L4 NOT 2004/PY

=> s (sequester?(w)agent#)/bi,ab      14567 SEQUESTER?/BI
12894 SEQUESTER?/AB                   1494518 AGENT#/BI
903275 AGENT#/AB
L6        3494 (SEQUESTER?(W)AGENT#)/BI,AB

=> s l3 and l6
L7          0 L3 AND L6

=> s ((sequester?(w)agent#) 20a prob?)/bi,ab
MISSING OPERATOR AGENT#) 20A
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s ((sequester?(w)agent#)(20a)(prob?))/bi,ab    14567
SEQUESTER?/BI                         12894 SEQUESTER?/AB
1494518 AGENT#/BI                     903275 AGENT#/AB
1307617 PROB?/BI                      1188469 PROB?/AB
L8         10 ((SEQUESTER?(W)AGENT#)(20A)(PROB?))/BI,AB

=> d his
 (FILE 'HOME' ENTERED AT 15:22:31 ON 09 JUL 2005)
 FILE 'CAPLUS' ENTERED AT 15:22:41 ON 09 JUL 2005
L1          2 S (ROLLING(W)CIRCLE(W)PROB?)/BI,AB
L2        226 S (ROLLING(W)CIRCLE(W)AMPLIF?)/BI,AB
L3        227 S L1 OR L2
L4        168 S L3 NOT 2005/PY
L5         89 S L4 NOT 2004/PY
L6       3494 S (SEQUESTER?(W)AGENT#)/BI,AB
L7          0 S L3 AND L6
L8         10 S ((SEQUESTER?(W)AGENT#)(20A)(PROB?))/BI,AB

=> e crothers/au
E1          7    CROTHER TIMOTHY R/AU
E2          1    CROTHER TIMOTHY ROBERT/AU
E3          0 --> CROTHERS/AU
E4          1    CROTHERS BARBARA/AU
E5          1    CROTHERS C B/AU
E6          1    CROTHERS C B H/AU
E7          5    CROTHERS C C/AU
E8          1    CROTHERS CAROL/AU
E9          1    CROTHERS CHARLES C/AU
E10         6    CROTHERS D/AU
E11         1    CROTHERS D C/AU
E12         1    CROTHERS D F S/AU

=> s e10
L9          6 "CROTHERS D"/AU

=> e crothers d/au
E1          1    CROTHERS CAROL/AU
E2          1    CROTHERS CHARLES C/AU
E3          6 --> CROTHERS D/AU
E4          1    CROTHERS D C/AU
E5          1    CROTHERS D F S/AU
E6         46    CROTHERS D M/AU
E7        156    CROTHERS D S F/AU
E8          2    CROTHERS DAVID/AU
E9          1    CROTHERS DAVID B/AU
E10         1    CROTHERS DERRICK/AU
E11        14    CROTHERS DERRICK S F/AU
E12         3    CROTHERS DONALD/AU

=> s e6 or e12        46 "CROTHERS D M"/AU      3 "CROTHERS
DONALD"/AU
L10        49 "CROTHERS D M"/AU OR "CROTHERS DONALD"/AU

=> e crothers donald/au
E1          1    CROTHERS DERRICK/AU
E2          14   CROTHERS DERRICK S F/AU
E3          3 --> CROTHERS DONALD/AU
E4        239    CROTHERS DONALD M/AU
E5          2    CROTHERS E/AU
E6          2    CROTHERS ELIZABETH/AU
E7          1    CROTHERS I/AU
E8          1    CROTHERS J/AU
E9          2    CROTHERS J H/AU
E10         1    CROTHERS J L D/AU
E11         1    CROTHERS J M JR/AU
E12         7    CROTHERS JAMES M JR/AU

=> s e4
L11       239 "CROTHERS DONALD M"/AU

=> d his
 (FILE 'HOME' ENTERED AT 15:22:31 ON 09 JUL 2005)
 FILE 'CAPLUS' ENTERED AT 15:22:41 ON 09 JUL 2005
L1          2 S (ROLLING(W)CIRCLE(W)PROB?)/BI,AB
L2        226 S (ROLLING(W)CIRCLE(W)AMPLIF?)/BI,AB
L3        227 S L1 OR L2
L4        168 S L3 NOT 2005/PY
L5         89 S L4 NOT 2004/PY
L6       3494 S (SEQUESTER?(W)AGENT#)/BI,AB
L7          0 S L3 AND L6
L8         10 S ((SEQUESTER?(W)AGENT#)(20A)(PROB?))/BI,AB
E CROTHERS/AU
L9          6 S E10          E CROTHERS D/AU
L10        49 S E6 OR E12          E CROTHERS DONALD/AU
L11       239 S E4

=> s l9 or l10 or l11
L12       294 L9 OR L10 OR L11

=> s l12 and hybridi?/bi,ab    162484 HYBRIDI?/BI
139725 HYBRIDI?/AB
L13        15 L12 AND HYBRIDI?/BI,AB

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 (FILE 'HOME' ENTERED AT 15:22:31 ON 09 JUL 2005)
 FILE 'CAPLUS' ENTERED AT 15:22:41 ON 09 JUL 2005
L1          2 S (ROLLING(W)CIRCLE(W)PROB?)/BI,AB
L2        226 S (ROLLING(W)CIRCLE(W)AMPLIF?)/BI,AB
L3        227 S L1 OR L2
L4        168 S L3 NOT 2005/PY
L5         89 S L4 NOT 2004/PY
L6       3494 S (SEQUESTER?(W)AGENT#)/BI,AB
L7          0 S L3 AND L6
L8         10 S ((SEQUESTER?(W)AGENT#)(20A)(PROB?))/BI,AB
E CROTHERS/AU
L9          6 S E10          E CROTHERS D/AU
L10        49 S E6 OR E12          E CROTHERS DONALD/AU
L11       239 S E4
L12       294 S L9 OR L10 OR L11
L13        15 S L12 AND HYBRIDI?/BI,AB

=> d l5 1-89 bib ab

L5   ANSWER 1 OF 89  CAPLUS  COPYRIGHT 2005 ACS on STN
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AN 2005:81071 CAPLUS
TI LGS shear horizontal SAW devices for biosensor applications
AU Berkenpas, E.; Bitla, S.; Millard, P.; Pereira da Cunha, M.
CS Dept. of Electrical and Computer Eng., University of Maine, Orono, ME, USA
SO Proceedings - IEEE Ultrasonics Symposium (2003), (Vol. 2), 1404-1407 CODEN: PIEUEZ; ISSN: 1051-0117
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
AB Low cost, highly sensitive biosensors for the selective detection of pathogens in liqs. are urgently needed. These sensors will play a major role in limiting the threat of hazardous microbial agents introduced into food and water supplies accidentally or through acts of terrorism. Surface acoustic wave (SAW) sensors utilizing the shear horizontal (SH) mode together with a nucleic acid recognition technique called ***rolling*** ***circle*** ***amplification*** (RCA) represent an attractive technol. for this type of application due to reduced acoustic wave attenuation of the SH mode in aq. environments when compared to the generalized SAW. Langasite (LGS) offers high coupling for the SH SAW mode, temp. compensated SH SAW orientations, and high dielec. permittivity, which diminishes the losses due to displacement current in high dielec. permittivity aq. solns. These properties were discussed in a previous work. This paper reports on LGS SH SAW delay lines that were designed and fabricated with a gold shorted delay path as the sensing area, in which a biomol. sensing test was performed as a model for the RCA recognition layer. Proteins were sequentially bound to a cysteamine-modified gold surface. With each protein addn., marked changes in the delay line phase were recorded, indicating the functionality of the biosensor as a platform for the RCA layer.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:406704 CAPLUS
DN 141:134819
TI Isolation of plasmid DNA rescued from single colonies of Agrobacterium tumefaciens by means of ***rolling*** ***circle*** ***amplification***
AU Chen, Xiuhua; Ding, Xiaodong; Song, Wen-Yuan
CS Department of Plant Pathology, Plant Molecular and Cellular Biology Program, University of Florida, Gainesville, FL, 32611, USA
SO Plant Molecular Biology Reporter (2003), 21(4), 411-415 CODEN: PMBRD4; ISSN: 0735-9640
PB International Society for Plant Molecular Biology
DT Journal
LA English
AB We report a simple method to isolate plasmids from single colonies of Agrobacterium tumefaciens by means of ***rolling*** ***circle*** ***amplification*** . The amplified DNA can be digested by restriction enzymes for plasmid verification and transformed into Escherichia coli for plasmid rescue. Compared with conventional procedures, this method eliminates liq. culturing of Agrobacterium cells and subsequent DNA isolation and enables large-scale plasmid analyses.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:170362 CAPLUS
DN 141:18209
TI Genetic analyses using rolling circle or PCR-amplified padlock probes
AU Baner, Johan Per Erik
CS Uppsala Universitet, Uppsala, Swed.
SO (2003) 40 pp. Avail.: From degree-granting institution
From: Diss. Abstr. Int., C 2003, 64(3), 599
DT Dissertation
LA English
AB Unavailable

L5 ANSWER 4 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:169891 CAPLUS
DN 141:239123
TI Optimization of ***rolling*** - ***circle*** ***amplified*** protein microarrays for multiplexed protein profiling
AU Shao, Weiping; Zhou, Zhimin; Laroche, Isabelle; Lu, Hong; Zong, Qiuling; Patel, Dhavalkumar D.; Kingsmore, Stephen; Piccoli, Steven P.
CS Molecular Staging, Inc, New Haven, CT, 06511, USA
SO Journal of Biomedicine & Biotechnology (2003), (5), 299-307 CODEN: JBBOAJ; ISSN: 1110-7243
PB Hindawi Publishing Corporation
DT Journal
LA English
AB Protein microarray-based approaches are increasingly being used in research and clin. applications to either profile the expression of proteins or screen mol. interactions. The development of high-throughput, sensitive, convenient, and cost-effective formats for detecting proteins is a necessity for the effective advancement of understanding disease processes. In this paper, the authors describe the generation of highly multiplexed, antibody-based, specific, and sensitive protein microarrays coupled with rolling-circle signal amplification (RCA) technol. A total of 150 cytokines were simultaneously detected in an RCA sandwich immunoassay format. Greater than half of these proteins have detection sensitivities in the pg/mL range. The validation of antibody microarray with human serum indicated that RCA-based protein microarrays are a powerful tool for high-throughput anal. of protein expression and mol. diagnostics.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:94327 CAPLUS
DN 141:151749
TI Padlock probes and ***rolling*** ***circle*** ***amplification*** : new possibilities for sensitive gene detection
AU Mendel-Hartvig, Maritha
CS Uppsala Universitet, Uppsala, Swed.
SO (2002) 41 pp. Avail.: From degree-granting institution
From: Diss. Abstr. Int., C 2003, 64(2), 360
DT Dissertation
LA English
AB Unavailable

L5 ANSWER 6 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:12192 CAPLUS
DN 141:83036
TI Automated purification of dye terminator sequencing reactions: an approach to high-throughput capillary electrophoresis sequencing of large templates

AU Gernon, Amy; Woldu, Ermias; Godlevski, Michele; Wilson, Willie; Gilmore, Rodney C.; Grant, Delores J.; Chatterjee, Pradeep K.; Kephart, Dan
CS GlaxoSmithKline Pharmaceuticals, USA
SO JALA (2003), 8(5), 19-23 CODEN: JALLFO; ISSN: 1535-5535
PB Elsevier
DT Journal
LA English
AB Demands for higher quantity and quality of sequence data during genome sequencing projects have led to a need for completely automated reagent systems designed to isolate, process, and analyze DNA samples. While much attention has been given to methodologies aimed at increasing the throughput of sample prepn. and reaction setup, purifn. of the products of sequencing reactions has received less scrutiny despite the profound influence that purifn. has on sequence quality. Commonly used and com. available sequencing reaction cleanup methods are not optimal for purifying sequencing reactions generated from larger templates, including bacterial artificial chromosomes (BACs) and those generated by ***rolling*** ***circle*** ***amplification*** Theor., these methods would not remove the original template since they only exclude small mols. and retain large mols. in the sample. If the large template remains in the purified sample, it could understandably interfere with electrokinetic injection and capillary performance. We demonstrate that the use of MagneSil paramagnetic particles (PMPs) to purify ABI PRISM BigDye sequencing reactions increases the quality and read length of sequences from large templates. The high-quality sequence data obtained by our procedure is independent of the size of template DNA used and can be completely automated on a variety of automated platforms.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:1007148 CAPLUS
DN 140:54450
TI Collapsible emulsions comprising aqueous, organic and inert phases used in small scale DNA amplification and sequencing reactions
IN Tillett, Daniel; Thomas, Torsten
PA Nucleics Pty. Ltd., Australia
SO PCT Int. Appl., 111 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
---------- ---- -------- ---------- --------
PI WO 2003106678 A1 20031224 WO 2003-AU746 20030613
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI AU 2002-2981 A 20020613
AB The present invention relates to collapsible emulsions comprising aq., org. and inert phases used in small scale DNA amplification and sequencing reactions. The method involves the use of two (or more) phases which, when formed into an emulsion, have the characteristic of being subject to 'collapse' under certain phys. or chem. conditions (temp. or pressure changes; addn. of glycerol) such that the discontinuous phase dispersed in the emulsion becomes a substantially continuous phase - the chem. reaction taking place in the newly-formed continuous phase. One major benefit of this invention is the small scale (microliter range) of the given chem. reaction.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:930837 CAPLUS
DN 140:1538
TI ***Rolling*** ***circle*** ***amplification*** and PCR-SSCP for evaluating cancer risk by detection of mutated allele
IN Costa, Jose
PA USA
SO U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 44,735. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI US 2003219765 A1 20031127 US 2002-271179 20021015
PRAI US 2000-191557P P 20000323 US 2001-814200 A1 20010321 US 2002-44735 A2 20020111
AB The present invention is directed to a method of evaluating the risk of cancer development in a patient, comprising the steps of: (1) providing from the patient a sample of material for which the risk of cancer development is to be evaluated; (2) quantitating the proportion of mutated alleles in the sample, relative to nonmutated alleles; (3) quantitating the degree of diversity of mutated alleles in the sample; (4) correlating the proportion of mutated alleles and the degree of diversity of mutated alleles; and (5) repeating steps (1) to (4) for a sufficient time to evaluate the risk of cancer development in the patient. The methods includes ***rolling*** ***circle*** ***amplification*** , hyperbranched ***rolling*** ***circle*** ***amplification*** , PCR-SSCP, mol. beacon microarray and fiber-based in situ hybridization. The invention also provides the sequences of probe for detection of mutation in k-ras gene.

L5 ANSWER 9 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:892944 CAPLUS
DN 139:376177
TI Methods for improving primer specificity for use in DNA amplification and sequencing
IN Tillett, Daniel; Thomas, Torsten
PA Nucleics Pty. Ltd., Australia
SO PCT Int. Appl., 85 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
---------- ---- -------- ---------- --------
PI WO 2003093500 A1 20031113 WO 2002-AU1763 20021224
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,

KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI AU 2002-2045 A 20020501
AB The present invention relates to the optimization of primer libraries. The method is based on hybridization of two complementary oligonucleotides, a short extendable oligonucleotide and a longer template oligonucleotide. Thus, shorter primers are annealed to template sequences and extended by a polymerase in order to provide primers having improved specificity. The primers of the invention have utility in DNA amplification and sequencing methods.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:861204 CAPLUS
DN 140:194380
TI ***Rolling*** ***circle*** ***amplification*** - restriction enzyme (RCA-RED) digestion for detection of gene
IN Ge, Xin
PA Institute of Sugar Industry, Harbin University of Technology, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- --------
PI CN 1384208 A 20021211 CN 2001-133433 20011107
PRAI CN 2001-133433 20011107
AB The invention provides ***rolling*** ***circle*** ***amplification*** -restriction enzyme (RCA-RED) method for detection of DNA. The method comprises hybridizing DNA or RNA in samples with specific endonuclease sites-contg. probes; ligating the probe with DNA ligase to cyclize the DNA probe; amplifying the DNA templates with DNA polymerase and primers in a rolling mode to synthesize double-stranded DNA; digesting the newly synthesizing double-stranded DNA with endonucleases, and detecting it via electrophoresis. The test kit consists of reagents for extg. and purifying DNA or RNA from bio-samples, DNA ligase T4, DNA polymerase, buffer, dNTPs, endonucleases, primers, pos. ref., neg. ref., and instruction. The phage lambda DNA, Equine infectious anemia virus, and toxin gene in Escherichia coli were detected.

L5 ANSWER 11 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:854515 CAPLUS
DN 140:36465
TI Practical applications of ***rolling*** ***circle*** ***amplification*** of DNA templates
AU Richardson, Paul M.; Detter, Chris; Schweitzer, Barry; Predki, Paul F.
CS Protometrix, Inc., Guilford, CT, 06437, USA
SO Genetic Engineering (New York, NY, United States) (2003), 25, 51-63 CODEN: GENGDC; ISSN: 0196-3716
PB Kluwer Academic/Plenum Publishers
DT Journal; General Review
LA English
AB A review on the various applications of multiply primed ***rolling*** ***circle*** ***amplification*** (MP-RCA) in the field of mol. biol. and genetic engineering, in addn. to sequencing applications.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:828554 CAPLUS
DN 140:23740
TI Direct retransformation of yeast with plasmid DNA isolated from single yeast colonies using ***rolling*** ***circle*** ***amplification***
AU Ding, Xiaodong; Snyder, Anita K.; Shaw, Regina; Farmerie, William G.; Song, Wen-Yuan
CS University of Florida, Gainesville, FL, USA
SO BioTechniques (2003), 35(4), 774,776,778-779 CODEN: BTNQDO; ISSN: 0736-6205
PB Eaton Publishing Co.
DT Journal
LA English
AB We have efficiently amplified plasmid DNA from single yeast colonies using ***rolling*** ***circle*** ***amplification*** (RCA). The amplified DNA can be directly used for restriction digestion, DNA sequencing, or yeast transformation. The RCA-based high-fidelity amplification would be useful for plasmid manipulation in a variety of yeast-based systems, particularly for high-throughput analyses.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:709161 CAPLUS
DN 139:346398
TI Recent developments in signal amplification methods for in situ hybridization
AU Qian, Xiang; Lloyd, Ricardo V.
CS Department of Laboratory Medicine and Pathology, Mayo Clinic and Mayo Foundation, Rochester, MN, USA
SO Diagnostic Molecular Pathology (2003), 12(1), 1-13 CODEN: DMPAES; ISSN: 1052-9551
PB Lippincott Williams & Wilkins
DT Journal; General Review
LA English
AB A review. In situ hybridization (ISH) allows for the histol. and cytol. localization of DNA and RNA targets. However, the application of ISH techniques can be limited by their inability to detect targets with low copies of DNA and RNA. During the last few years, several strategies have been developed to improve the sensitivity of ISH by amplification of either target nucleic acid sequences prior to ISH or signal detection after the hybridization is completed. Current approaches involving target amplification (in situ PCR, primed labeling, self-sustained sequence replication), signal amplification (tyramide signal amplification, branched DNA amplification), and probe amplification (padlock probes and ***rolling*** ***circle*** ***amplification***) are reviewed with emphasis on their applications to bright field microscopy. More recent developments such as mol. beacons and in situ strand displacement amplification continue to increase the sensitivity of in situ hybridization methods. Application of some of these techniques has extended the utility of ISH in diagnostic pathol.

and in research because of the ability to detect targets with low copy nos. of DNA and RNA.
RE.CNT 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:696418 CAPLUS
DN 139:225439
TI Use of open circle probes with intramolecular stem structures for enhanced specificity of ***rolling*** - ***circle*** ***amplification*** during genotype analysis of human diseases
IN Alsmadi, Osama A.; Driscoll, Mark D.; Egholm, Michael; Abarzua, Patricio
PA USA
SO U.S. Pat. Appl. Publ., 89 pp., Cont.-in-part of U.S. Ser. No. 803,713. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 2003165948 A1 20030904 US 2002-325490 20021219 US 2003022167 A1 20030130 US 2001-803713 20010309 US 6573051 B2 20030603 US 2003175788 A1 20030918 US 2003-404944 20030331
PRAI US 2001-803713 A2 20010309
AB This invention relates to use of open circle probes with intramol. stem structures during ***rolling*** - ***circle*** ***amplification*** for artifact elimination while enhancing amplification efficiency, specificity and consistency. Specificity of the disclosed method derives from use of open circle probes that can form intramol. stem structures, such as a hair pin at one or both ends, allowing the open circle probe to only be circularized when hybridized to a legitimate target sequence. Inactivation of uncircularized open circle probes results in reduced or eliminated ability to prime nucleic acid synthesis or to serve as a template for amplification. This invention combines use of the open circle probe with a secondary DNA strand displacement primer and a common rolling circle replication primer in the same nucleic acid amplification reaction. Also included in the same reaction are detection moieties, a fluorophore-conjugated detection rolling circle replication primer and a peptide nucleic acid (PNA) quenching primer. Upon amplification-mediated sepn. of the detection rolling circle replication primer and the PNA quenching primer, the detection primer produces a fluorescent signal. Use of this enhanced rolling-circle nucleic acid amplification method has been demonstrated in genotype anal. of human genes assocd. with hemochromatosis and prothrombin factor II.

L5 ANSWER 15 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:633158 CAPLUS
DN 139:161812
TI Detection method using dissociated ***rolling*** ***circle*** ***amplification***
IN Kumar, Gyanendra; Abarzua, Patricio; Egholm, Michael
PA USA
SO U.S. Pat. Appl. Publ., 44 pp. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 2003152932 A1 20030814 US 2002-72666 20020208 WO 2003066908 A1 20030814 WO 2003-US678 20030109 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2002-72666 A 20020208
AB Disclosed are compns. and methods for detecting small quantities of analytes such as proteins and peptides. The method involves assocg. a DNA circle with the analyte and subsequent release and rolling circle replication of the circular DNA mol. In the method, an amplification target circle is assocd. with analytes using a conjugate of the circle and a specific binding mol. that is specific for the analyte to be detected. Amplification target circles not assocd. with the proteins are removed, the amplification target circles that are assocd. with the proteins are decoupled from the specific binding mol. and amplified by ***rolling*** ***circle*** ***amplification*** . The amplification is isothermic and can result in the prodn. of a large amt. of nucleic acid from each primer. The amplified DNA serves as a readily detectable signal for the analytes.

L5 ANSWER 16 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:610667 CAPLUS
DN 139:144940
TI Detection of microbial nucleic acids in body fluid, tissue or feces using approach encompassing hybridization and ***rolling*** - ***circle*** ***amplification***
IN Wan, Qiang
PA Atlantic Biotabs, Inc., USA; Chengdu Advancetech Biotechnologies Co., Ltd.
SO PCT Int. Appl., 43 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2003064692 A1 20030807 WO 2002-US2372 20020129 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, GM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI WO 2002-US2372 20020129
AB The invention provides a method involving nucleic acid hybridization and ***rolling*** - ***circle*** ***amplification*** for detection of target microbial nucleic acids in samples taken from body fluid, tissue or feces. The method specifically involves: (a) hybridizing a target nucleic acid to a capture probe which has been immobilized onto a solid surface; (b) hybridizing a 2nd probe (counting probe) to said target nucleic acid; (c) adding DNA ligase to said complex

allowing the capture and counting probe to ligate; and (d) adding to said probe complex a single-stranded circular DNA followed by DNA polymerase, which allows ssDNA to be amplified. The invention relates that said microbial target nucleic acids may be from bacterium, virus, parasite or fungus, and that body fluid may be taken from blood, saliva, urine and/or sputum. The invention also relates that the 5'-ends of the counting probes are phosphorylated which allows ligation to occur between capture and counting probes. Although not specifically disclosed, the invention discussed the potential use of this method in detecting the presence and copy no. of multiple nucleic acids within a sample, and its anticipated use in detection of point mutations, in personal identification, and in diagnosis. The invention also discussed that said method could use DNA chips.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 17 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:566286 CAPLUS
DN 139:208403
TI Synthetic DNA used in amplification reactions
AU Kelly, Lisa S.
CS Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA, USA
SO Artificial DNA (2003), 115-159. Editor(s): Khudyakov, Yuri E.; Fields, Howard A. Publisher: CRC Press LLC, Boca Raton, Fla. CODEN: 69EGFC; ISBN: 0-8493-1426-7
DT Conference
LA English
AB The use of oligonucleotides in various DNA amplification reactions was discussed in details. These reactions were following: polymerase chain reaction, ligase chain reaction, ***rolling*** , ***circle*** , ***amplification*** , strand-displacement amplification, transcription-based amplification, branched DNA and probe-degrdn. reaction.
RE.CNT 356 THERE ARE 356 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 18 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:551939 CAPLUS
DN 139:192134
TI Atomic force microscopy analysis of ***rolling*** ***circle*** ***amplification*** of plasmid DNA
AU Mizuta, Ryushin; Mizuta, Midori; Kitamura, Daisuke
CS Research Institute for Biological Sciences, Tokyo University of Science, Chiba, Japan
SO Archives of Histology and Cytology (2003), 66(2), 175-181 CODEN: AHCYEZ; ISSN: 0914-9465
PB International Society of Histology and Cytology
DT Journal
LA English
AB ***Rolling*** ***circle*** ***amplification*** (RCA) of plasmid DNA using random hexamers and bacteriophage phi29 DNA polymerase is an increasingly applied technique for amplifying template DNA for DNA sequencing. The authors analyzed this RCA reaction at a single-mol. level by at. force microscopy (AFM) and found that multibranched amplified products contg. tandem repeats of a circle unit are formed within 1 h. The authors also used the RCA product of a GFP expression vector for the protein expression in cells, and found that the crude RCA product from one bacterial colony is sufficient for the GFP expression. Thus, the RCA reaction is useful in amplifying DNA for both DNA sequencing and protein expression.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:506374 CAPLUS
DN 139:144458
TI ***Rolling*** ***circle*** ***amplification*** technology: potential applications in cancer research and clinical oncology
AU Leamon, John H.; Hamann, Stefan; Costa, Jose C.; Ward, David C.; Lizardi, Paul M.
CS Department of Pathology, Yale University School of Medicine, New Haven, CT, USA
SO Progress in Oncology (2001) 46-71 CODEN: PORNAF; ISSN: 1535-9980
PB Jones and Bartlett Publishers
DT Journal; General Review
LA English
AB A review. While PCR excels in amplifying DNA mols. in soln., it is not as well suited for surface-based detection assays. With the advent of microarray-based technologies, there has been increasing interest in surface-anchored DNA amplification. A novel technol. called ***rolling*** ***circle*** ***amplification*** (RCA) permits the localization of individual mol. recognition events on surfaces. This technol. relies on isothermal DNA amplification reactions, which can be adapted to a variety of existing RCA-based assays with multiple potential applications in tumor genetic anal. and in cancer immunodiagnostics. We also discuss the advantages as well as the current limitations of RCA-based methods, and speculate on potential future applications in oncol.
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:503549 CAPLUS
DN 140:333110
TI Protein and nucleic acid detection by ***rolling*** ***circle*** ***amplification*** on gel-based microarrays
AU Nallur, Girish; Marrero, Robert; Luo, Chenghua; Krishna, R. Murli; Bechtel, Pamela E.; Shao, Weiping; Ray, Melissa; Wiltshire, Steve; Fang, Linhua; Huang, Heshu; Liu, Chang-Gong; Sun, Lei; Sawyer, Jaymie R.; Kingsmore, Stephen F.; Schweitzer, Barry; Xia, James
CS Molecular Staging, Inc., New Haven, CT, 06511, USA
SO Biomedical Microdevices (2003), 5(2), 115-123 CODEN: BMICFC; ISSN: 1387-2176
PB Kluwer Academic Publishers
DT Journal
LA English
AB Microarrays are becoming the platform of choice for the anal. of complex genomes, transcriptomes and proteomes. For a no. of applications, however, sample or analyte abundance constraints limit the usefulness of microarrays. ***Rolling*** ***circle*** ***amplification*** (RCA) has previously been shown to be a signal amplification method that is useful in these applications on glass microarrays. This report describes use of RCA for multiplexed detection of nucleic acids and proteins on 3-dimensional, porous microarrays (CodeLink). Assays combined a sandwiched immunoassay with RCA signal amplification of assocd. haptens, achieving sensitivities of 0.1 pg/mL for IL6, IL8, MIP-1.beta., and EGF. A similar RCA strategy was utilized in a genotyping assay on CodeLink microarrays that provided three-log enhancement of signal intensity. RCA assays on CodeLink

microarrays were rapid, and utilized low-vols., suggesting that performance of RCA universal signal amplification on CodeLink microarrays may find useful applications in multiplexed measurements, rare biomol. detection, and small sample anal.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 21 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:499610 CAPLUS
DN 139:160489
TI High accuracy genotyping directly from genomic DNA using a ***rolling*** ***circle*** ***amplification*** based assay
AU Alsmadi, Osama; Bornarth, Carole J.; Song, Wanmin; Wisniewski, Michele; Du, Jing; Brockman, Joel P.; Faruqi, A. Fawad; Hosono, Seiyu; Sun, Zhenyu; Du, Yuefen; Wu, Xiaohong; Egholm, Michael; Abarzua, Patricio; Lasken, Roger S.; Driscoll, Mark D.
CS Molecular Staging, Inc., New Haven, CT, 06511, USA
SO BMC Genomics (2003), 4, No pp. given CODEN: BGMEET; ISSN: 1471-2164 URL: http://www.biomedcentral.com/1471-2164/4/21
PB BioMed Central Ltd.
DT Journal; (online computer file)
LA English
AB ***Rolling*** ***circle*** ***amplification*** of ligated probes is a simple and sensitive means for genotyping directly from genomic DNA. SNPs and mutations are interrogated with open circle probes (OCP) that can be circularized by DNA ligase when the probe matches the genotype. An amplified detection signal is generated by exponential ***rolling*** ***circle*** ***amplification*** (ERCA) of the circularized probe. The low cost and scalability of ligation/ERCA genotyping makes it ideally suited for automated, high throughput methods. A retrospective study using human genomic DNA samples of known genotype was performed for four different clin. Relevant mutations: Factor V Leiden, Factor II prothrombin, and two hemochromatosis mutations, C282Y and H63D. Greater than 99% accuracy was obtained genotyping genomic DNA samples from hundreds of different individuals. The combined process of ligation/ERCA was performed in a single tube and produced fluorescent signal directly from genomic DNA in less than an hour. In each assay, the probes for both normal and mutant alleles were combined in a single reaction. Multiple ERCA primers combined with a quenched-peptide nucleic acid (Q-PNA) fluorescent detection system greatly accelerated the appearance of signal. Probes designed with hairpin structures reduced misamplification. Genotyping accuracy was identical from either purified genomic DNA or genomic DNA generated using whole genome amplification (WGA). Fluorescent signal output was measured in real time and as an end point. In conclusions, combining the optimal elements for ligation/ERCA genotyping has resulted in a highly accurate single tube assay for genotyping directly from genomic DNA samples. Accuracy exceeded 99 % for four probe sets targeting clin. relevant mutations. No genotypes were called incorrectly using either genomic DNA or whole genome amplified sample.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 22 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:305399 CAPLUS
DN 138:332465
TI Multiplex detection of hotspot mutations by rolling circle-enabled universal microarrays. [Erratum to document cited in CA136:335661]
AU Ladner, Daniela P.; Leamon, John H.; Hamann, Stefan; Tarafa, Gemma; Strugnell, Todd; Dillon, Deborah; Lizardi, Paul; Costa, Jose
CS Department of Pathology, Yale New Haven Hospital, Yale University, New Haven, CT, USA
SO Laboratory Investigation (2001), 81(10), 1338 CODEN: LAINAW; ISSN: 0023-6837
PB Lippincott Williams & Wilkins
DT Journal
LA English
AB On page 1081, Figure 2 legend, the description of frames A and B is reversed; it should read thus: "A, Without RCA amplification, when a Cy-3 fluorophore is directly attached to the downstream probe, only wild-type DNA can be detected, whereas the GAT mutation remains undetectable. B, With RCA signal amplification, both the GGT and the GAT mutation remain correctly detected". On page 1079, the grant footnote was incomplete and should read thus: "This work was supported by the NCI Early Detection Research Network Grant No. CA 85065-03 and the NCI Innovative Technologies Grant No. CA81671-02.".

L5 ANSWER 23 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:282026 CAPLUS
DN 138:298791
TI Apparatus and method for sequencing a nucleic acid after ***rolling*** ***circle*** ***amplification***
IN Rothberg, Jonathan M.; Bader, Joel S.; Dewell, Scott B.; McDade, Keith; Simpson, John W.; Berka, Jan; Colangelo, Christopher M.; Weiner, Michael P.
PA USA
SO U.S. Pat. Appl. Publ., 52 pp., Cont.-in-part of U.S. Ser. No. 814,338. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 2003068629 A1 20030410 US 2002-104280 20020321 US 2002012930 A1 20020131 US 2001-814338 20010321 US 2003100102 A1 20030529 US 2002-222592 20020815
PRAI US 2001-814338 A2 20010321 US 1999-398833 A2 19990916 US 2000-664197 A2 20000918 US 2002-104280 A1 20020321
AB Disclosed herein are methods and apparatuses for sequencing a nucleic acid. These methods permit a very large no. of independent sequencing reactions to be arrayed in parallel, permitting simultaneous sequencing of a very large no. (> 10,000) of different oligonucleotides. Thus, the app. is an array comprising a planar surface with many reaction chambers, each reaction chamber contg. no more than one single-stranded circular nucleic acid. The reaction chambers may be formed on the tip of a fiber optic bundle. The nucleic acid to be sequenced is contained in the single-stranded circular nucleic acid, which, addnl., contains sequences complementary to an anchor primer and to a sequencing primer. The reaction chambers contain an immobilized anchor primer to which the single-stranded circular nucleic acid binds. Upon addn. of DNA polymerase and dNTPs the nucleic acid is amplified by a rolling circle mechanism. The resulting DNA, contg. multiple repeats of the original nucleic acid, is sequenced using a sequencing primer. Incorporation of nucleotides may be followed by pyrosequencing.

L5 ANSWER 24 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:259441 CAPLUS
DN 139:240842
TI Detection of target nucleic acids and proteins by amplification of circularizable probes
AU Zhang, David Y.; Liu, Bin
CS Molecular Pathology Laboratory, Mount Sinai School of Medicine, New York, NY, 10021, USA
SO Expert Review of Molecular Diagnostics (2003), 3(2), 237-248 CODEN: ERMDCW; ISSN: 1473-7159
PB Future Drugs Ltd.
DT Journal; General Review
LA English
AB A review. Circularizable oligonucleotide probe (C-probe) is a unique mol. that offers significant advantages over conventional probes. Closed circular structure can be formed through ligation of its ends after hybridizing onto a target and locked on its target due to the helical turns formed between the complementary sequences of the target and the C-probe (padlock probe). Under an isothermal condition, C-probe can be amplified by ***rolling*** ***circle*** ***amplification*** , to generate multimeric single-stranded DNA. This multimeric single-stranded DNA can be further amplified by a ramification mechanism through primer extension and upstream DNA displacement, resulting in an exponential amplification. Usually, an unbiased product is generated by either ***rolling*** ***circle*** ***amplification*** or ramification mechanism due to the generic primers of C-probe and is localized on targets. These advantages make C-probe amplification very useful for research and mol. diagnosis, esp. in the areas where other techniques are not adequately helpful. The development of C-probe-based technologies initiates a new future for mol. diagnostics. The applications of C-probe, ***rolling*** ***circle*** ***amplification*** , ramification mechanism, in situ detection, microarray, immunoassay, single nucleotide polymorphism and whole genome amplification are discussed. RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 25 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:179207 CAPLUS
TI Utilizing microarray technology for rapid identification of influenza A
AU Townsend, Michael; Rowlen, Kathy
CS Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO, 80302, USA
SO Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), BIOT-214 Publisher: American Chemical Society, Washington, D. C. CODEN: 69DSA4
DT Conference; Meeting Abstract
LA English
AB Rapid identification of viruses has become a very important goal in today's society. Annual influenza A virus infections have a significant impact on humanity both in terms of death, between 500,000 and 1,000,000 people worldwide each year, and economic impact resulting from direct and indirect loss of productivity during infection. The difference between life threatening and non-life threatening influenza virus can be related to the particular strain that infects an individual. Thus, it is important not only to identify the virus but also the strain as well. Microarray technol., in concert with ***Rolling*** ***Circle*** ***Amplification*** , a novel signal amplification methodol., is being developed for use in rapid influenza identification.

L5 ANSWER 26 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:96150 CAPLUS
DN 139:257397
TI Multiplexed protein profiling on antibody-based microarrays by ***rolling*** ***circle*** ***amplification***
AU Kingsmore, Stephen F.; Patel, Dhavalkumar D.
CS Molecular Staging Inc., New Haven, CT, 06511, USA
SO Current Opinion in Biotechnology (2003), 14(1), 74-81 CODEN: COBIES; ISSN: 0958-1669
PB Elsevier Science Ltd.
DT Journal; General Review
LA English
AB A review. Multiplexed immunoassays on antibody-based protein microarrays are an attractive soln. for analyzing biol. responses in normal and diseased states. Recently, the feasibility and utility of these assays has been established as concerns about specificity and sensitivity are being overcome by careful quality control and amplification technologies such as ***rolling*** ***circle*** ***amplification*** (RCA). RCA-amplified protein chips can now profile up to 150 proteins in various substrates including serum, plasma, and supernatants with high sensitivity, broad dynamic range and good reproducibility. Diagnostic utility of RCA-amplified protein chips has been shown for multiplexed allergen testing. When allied with multivariate statistical anal., RCA protein chips have the potential to identify multiplexed biomarker classifiers for disease diagnosis and drug response.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 27 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:82481 CAPLUS
DN 138:219857
TI Trends in immunohistochemistry: The integration of tissue-based analysis and molecular profiling
AU Key, Marc E.
CS DakoCytomation, Carpinteria, CA, USA
SO Journal of Histotechnology (2002), 25(4), 243-245 CODEN: JOHIDN; ISSN: 0147-8885
PB National Society for Histotechnology
DT Journal; General Review
LA English
AB A review. The history of immunohistochem. has been a const. effort to improve sensitivity for the detection of rare antigenic targets within fixed tissues, with the ultimate goal of integrating tissue-based anal. with proteomic information. The preservation of antigen within fixed tissues is variable and unpredictable, and many of the immunochem. methods effective in soln.-based immunoassays have been ineffective when applied to tissues. A no. of strategies have evolved for dealing with this problem. Beginning in the mid 1960s, a const. stream of new immunohistochem. techniques emerged, including direct peroxidase conjugates, PAP, ABC, LSAB, and polymer-based methods. Several newer techniques promise even greater gains in sensitivity, including tyramide amplification and ***rolling*** ***circle*** ***amplification*** . Once the obstacle of sensitivity in fixed and embedded tissues is resolved, the goal of merging morphol. and mol. anal. becomes attainable. Because the gene product is ultimately responsible for the biol. behavior of a cell, the direct measurement of protein by immunohistochem. means holds out the great promise of integration of tissue-based anal. with mol. profiling.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 28 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:43825 CAPLUS
DN 138:249258
TI DNA sequencing using ***rolling*** ***circle*** ***amplification*** and precision glass syringes in a high-throughput liquid handling system
AU Wu, Hui-Chung; Shieh, Jean; Wright, David J.; Azarani, Arezou
CS Apogent Discoveries, Sunnyvale, CA, 94089-2213, USA
SO BioTechniques (2003), 34(1), 204-207 CODEN: BTNQDO; ISSN: 0736-6205
PB Eaton Publishing Co.
DT Journal
LA English
AB An automated high-throughput method that employs ***rolling*** ***circle*** ***amplification*** (RCA) to generate templates for large-scale DNA sequencing has been developed using liq. handling systems equipped with precision glass syringes. A protocol was designed to perform the sequencing anal. from template prepn. to thermal cycle sequencing within the same vessel, thus minimizing the amt. of liq. handling and transfer. The amplified DNA was directly used for cycle sequencing with no need for any purifn. procedures. Total RCA reaction vols. as low as 500 nL generated sufficient templates for successful sequencing. Reducing the RCA total reaction vols. by a 40-fold factor, from a total of 20 .mu.L to 500 nL, resulted in a significant redn. in cost, from $1.25/reaction to less than $0.04/reaction. Addnl., the vol. of the sequencing reactions was reduced from a total of 20 to 10 .mu.L, thus generating a further cost advantage. This high-throughput DNA sequencing protocol maximizes the speed and precision of processing while significantly reducing the cost of amplification.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 29 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:967419 CAPLUS
DN 138:232492
TI Isothermal Strand-Displacement Amplification Applications for High-Throughput Genomics
AU Detter, John C.; Jett, Jamie M.; Lucas, Susan M.; Dalin, Eileen; Arellano, Andre R.; Wang, Mei; Nelson, John R.; Chapman, Jarrod; Lou, Yunian; Rokhsar, Dan; Hawkins, Trevor L.; Richardson, Paul M.
CS United States Department of Energy Joint Genome Institute, Walnut Creek, CA, 94598, USA
SO Genomics (2002), 80(6), 691-698 CODEN: GNMCEP; ISSN: 0888-7543
PB Elsevier Science
DT Journal
LA English
AB Amplification of source DNA is a nearly universal requirement for mol. biol. applications. The primary methods currently available to researchers are limited to in vivo amplification in Escherichia coli hosts and the polymerase chain reaction. Rolling-circle DNA replication is a well-known method for synthesis of phage genomes and recently has been applied as ***rolling*** ***circle*** ***amplification*** (RCA) of specific target sequences as well as circular vectors used in cloning. Here, we demonstrate that RCA using random hexamer primers with .PHI.29 DNA polymerase can be used for strand-displacement amplification of different vector constructs contg. a variety of insert sizes to produce consistently uniform template for end-sequencing reactions. We show this procedure to be esp. effective in a high-throughput plasmid prodn. sequencing process. In addn., we demonstrate that whole bacterial genomes can be effectively amplified from cells or small amts. of purified genomic DNA without apparent bias for use in downstream applications, including whole genome shotgun sequencing.
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 30 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:941076 CAPLUS
DN 138:232227
TI ***Rolling*** - ***circle*** ***amplification*** in DNA diagnostics: the power of simplicity
AU Demidov, Vadim V.
CS Center for Advanced Biotechnology and Department of Biomedical Engineering, Boston University, Boston, MA, 02215, USA
SO Expert Review of Molecular Diagnostics (2002), 2(6), 542-548 CODEN: ERMDCW; ISSN: 1473-7159
PB Future Drugs Ltd.
DT Journal; General Review
LA English
AB A review. Due to its robustness and simplicity, the rolling replication of circular DNA probes holds a distinct position in DNA diagnostics among other isothermal methods of target, probe or signal amplification. Major ***rolling*** - ***circle*** ***amplification*** approaches to DNA detection via posthybridization probe/signal turn-by-turn enhancement are briefly overviewed here with an emphasis on the new concepts and latest progress in the field, including the single-mol. and single-mutation detection assays as exemplary applications. Underlying mechanisms, current controversies and principal advantages of ***rolling*** - ***circle*** ***amplification*** are also considered. Possible future directions for the further advancement of this diagnostic methodol. are outlined.
RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 31 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:929684 CAPLUS
DN 138:215939
TI An alternate method for preparing templates for DNA sequencing
AU Patki, Abhay H.; Nelson, John R.
CS Amersham Biosciences, Piscataway, NJ, 08855, USA
SO Genomic/Proteomic Technology (2002), 2(5), 28-31 CODEN: GTEEAT
PB International Scientific Communications, Inc.
DT Journal
LA English
AB Using Phi29 DNA polymerase and ***rolling*** ***circle*** ***amplification*** (RCA) technol., Templiphi kits (Amersham Biosciences; Piscataway, NJ) produce consistent quality and quantity of DNA templates for DNA sequencing. The amplification method is performed isothermally at 30 .degree.C, generating 107-fold amplification in 4-6 h. The kits generate large amts. of product (2-4 .mu.g) from as little as 0.01 ng DNA from purified plasmid DNA, 5-10 bacterial cells, or small amts. of satd. cultures. Phi29 DNA polymerase has good processivity and proofreading activity, generating high-quality templates that can

be used directly in sequencing reactions. TempliPhi technol. can easily and cost-effectively improve sequencing productivity, and can be used for other applications as well.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 32 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:754606 CAPLUS
DN 137:274023
TI Open circle probes with intramolecular stem structures for elimination of unwanted side products in ***rolling*** - ***circle*** ***amplification***
IN Alsmadi, Osama A.; Abarzua, Patricio
PA Molecular Staging, Inc., USA
SO PCT Int. Appl., 104 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- --------
PI WO 2002077256 A1 20021003 WO 2002-US2601 20020130 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG US 2003022167 A1 20030130 US 2001-803713 20010309 US 6573051 B2 20030603 US 2003175788 A1 20030918 US 2003-404944 20030331
PRAI US 2001-803713 A 20010309
AB Disclosed are compns. and methods for reducing or eliminating generation of unwanted, undesirable, or non-specific amplification products in nucleic acid amplification reactions, such as ***rolling*** ***circle*** ***amplification*** . One form of compn. is an open circle probe, i.e. a linear probe, that can form an intramol. stem structure, such as a hairpin structure, at one or both ends. The stem structure allows the open circle probe to be circularized when hybridized to a legitimate target sequence but results in inactivation of uncircularized open circle probes. The inactivation, which preferably involves stabilization of the stem structure, extension of the end of the open circle probe, or both, reduces or eliminates the ability of the open circle probe to prime nucleic acid synthesis or to serve as a template for ***rolling*** ***circle*** ***amplification*** . Unhybridized probe will hybridize to itself and at most will prime a single round of primer extension which will take it out of the substrate pool. The disclosed method is useful for detection, quantitation, and/or location of any desired analyte, such as proteins and peptides.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 33 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:749330 CAPLUS
DN 138:367240
TI ***Rolling*** ***circle*** ***amplification*** improves sensitivity in multiplex immunoassays on microspheres
AU Mullenix, Michael C.; Sivakamasundari, Ramou; Feaver, William J.; Krishna, R. Murli; Sorette, Martin P.; Datta, Hirock J.; Morosan, David M.; Piccoli, Steven P.
CS Molecular Staging Inc., New Haven, CT, 06511, USA
SO Clinical Chemistry (Washington, DC, United States) (2002), 48(10), 1855-1858 CODEN: CLCHAU; ISSN: 0009-9147
PB American Association for Clinical Chemistry
DT Journal
LA English
AB ***Rolling*** ***circle*** ***amplification*** provided significant improvement in the detection limits of com. available multiplexed cytokine microsphere immunoassays. Similar sensitivity improvements were achieved in assays designed for use in conventional flow cytometers. Detection of multiple cytokines did not alter the detection limits for individual cytokine assays.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 34 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:749329 CAPLUS
DN 138:69274
TI ***Rolling*** ***circle*** ***amplification*** technology as a potential tool in detection and monitoring of cancer by flow cytometry
AU Raghunathan, Arumugham; Sorette, Martin P.; Ferguson, Harley R., Jr.; Piccoli, Steven P.
CS Cellular Analysis Section, Flow Cytometry Group, Molecular Staging, Inc., New Haven, CT, 06511, USA
SO Clinical Chemistry (Washington, DC, United States) (2002), 48(10), 1853-1855 CODEN: CLCHAU; ISSN: 0009-9147
PB American Association for Clinical Chemistry
DT Journal
LA English
AB ***Rolling*** ***circle*** ***amplification*** (RCA) technol. was applied to the detection of lymphocyte surface markers (CD4 and CD28) in pathol. conditions by flow cytometry. A > 10-fold increase in fluorescence intensity was obtained by signal amplification using RCA compared with conventional indirect detection using streptavidin- phycoerythrin. Signal amplification was also effective with CD4 detection on monocytes, exceeding a 10-fold increase over direct labeling.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 35 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:578021 CAPLUS
DN 137:305342
TI Real-time monitoring of ***rolling*** - ***circle*** ***amplification*** using a modified molecular beacon design
AU Nilsson, Mats; Gullberg, Mats; Dahl, Fredrik; Szuhai, Karoly; Raap, Anton K.
CS Department of Molecular Cell Biology, Leiden University Medical Center, Leiden, 2333 AL, Neth.
SO Nucleic Acids Research (2002), 30(14), e66/1-e66/7 CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB We describe a method to monitor rolling-circle replication of circular oligonucleotides in dual-color and in real-time using mol. beacons. The method can be used to study the kinetics of the polymn. reaction and to amplify and quantify circularized oligonucleotide probes in a ***rolling*** - ***circle***

amplification (RCA) reaction. Modified mol. beacons were made of 2'-O-Me-RNA to prevent 3' exonucleolytic degrdn. by the polymerase used. Moreover, the complement of one of the stem sequences of the mol. beacon was included in the RCA products to avoid fluorescence quenching due to inter-mol. hybridization of neighboring mol. beacons hybridizing to the concatemeric polymn. product. The method allows highly accurate quantification of circularized DNA over a broad concn. range by relating the signal from the test DNA circle to an internal ref. DNA circle reporting in a distinct fluorescence color.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 36 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:557456 CAPLUS
DN 138:33824
TI Flexible and scalable automation solutions for scoring single nucleotide polymorphisms using ***rolling*** ***circle*** ***amplification***
AU Ghouze, Firman; Scozzafava, Giuseppe; Oreo, Ray; Hughes, Barry; Roe, Phyllida; Wheeler, Claire; Howe, Roland; Morris, Stephen; Comley, John
CS Amersham Biosciences, USA
SO JALA (2002), 7(3), 70-75 CODEN: JALLFO
PB JALA
DT Journal
LA English
AB A single nucleotide polymorphism (SNP) scoring assay that uses ligation-dependent ***Rolling*** ***Circle*** ***Amplification*** (RCA) was transferred to a series of automated protocols addressing a range of throughput levels. The systems utilized various automation modules consisting of custom-made and off-the-shelf devices. Several system parameters were evaluated to ensure assay integrity and homogeneity. These included reagent carry over, liq. evapn. rates, thermal regulation of reactions and fluorescence reading capabilities. Data anal. software was developed in order to rapidly allocate SNP calls from data generated by the automated system. A modified fuzzy c-means clustering algorithm was employed to sep. data points into groups assocd. with specific genotypes. Data were then presented graphically and within a summary table, which allowed easy and rapid organization and interpretation of data.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 37 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:555649 CAPLUS
DN 137:120674
TI Amplification, recovery and manipulation of vector and target nucleic acid sequences from mammalian host cells
IN Beach, David H.; Molz, Lisa; Caddle, Mark
PA Genetica, Inc., USA
SO PCT Int. Appl., 189 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 20020257447 A2 20020725 WO 2002-US1942 20020122
WO 2002057447 A3 20030320
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
US 2003082559 A1 20030501
US 2002-55719 20020122
PRAI US 2001-262937P P 20010119
US 2001-269591P P 20010216
AB Integrating vectors for mammalian cells that can be excised and amplified and methods of using them in the elucidation of mammalian gene function are described. These vectors can be used in the recovery of vectors from mammalian complementation screening, from functional inactivation of specific essential or non-essential mammalian genes, and products from the identification of mammalian genes which are modulated in response to specific stimuli. The methods and vectors can be used in, but are not limited to, recovery of replication-deficient retroviral vectors, libraries comprising such vectors, retroviral particles produced by such vectors in conjunction with packaging cell lines, integrated provirus sequences derived from the retroviral particles of the invention and circularized provirus sequences which have been excised from the integrated provirus sequences of the invention. The comprns. of the present invention further include novel retroviral packaging cell lines. Construction of a no. of vectors and methods of using them are described in detail.

L5 ANSWER 38 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:519643 CAPLUS
DN 137:258057
TI Integration of DNA ligation and ***rolling*** ***circle*** ***amplification*** for the homogeneous, end-point detection of single nucleotide polymorphisms
AU Pickering, Judith; Bamford, Anona; Godbole, Varsha; Briggs, Jackie; Scozzafava, Giuseppe; Roe, Phyllida; Wheeler, Claire; Ghouze, Firman; Cuss, Sarah
CS The Grove Centre, Amersham Biosciences UK Ltd, Amersham, HP7 9LL, UK
SO Nucleic Acids Research (2002), 30(12), e60/1-e60/7 CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB Assocn. studies using common sequence variants or single nucleotide polymorphisms (SNPs) may provide a powerful approach to dissect the genetic inheritance of common complex traits. Such studies necessitate the development of cost-effective, high throughput technologies for scoring SNPs. The method described in this paper for the co-detection of both alleles of a SNP in a single homogeneous reaction combines the specificity of a high fidelity DNA ligation step with the power of ***rolling*** ***circle*** ***amplification*** . The incorporation of Amplifluor energy transfer primers enables signal detection in a homogeneous format, making this approach highly amenable to automation. The adaptation of the genotyping method for high throughput screening using conventional liq. handling systems is described.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 39 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:489378 CAPLUS
DN 137:92271

TI Quantitative measurement of serum allergen-specific IgE on protein chip
AU Kim, Tae-Eun; Park, Seok-Won; Cho, Nam-Yun; Choi, Seung-Young; Yong, Tai-Soon; Nahrn, Baek-Hie; Lee, SangSun; Noh, Geunwoong
CS Molecular immunology & Biochip Lab, Food Allergy Research Center, Food BioTech Co. Ltd., Seoul, S. Korea
SO Experimental and Molecular Medicine (2002), 34(2), 152-158 CODEN: EMMEF3; ISSN: 1226-3613
PB Korean Society of Medical Biochemistry and Molecular Biology
DT Journal
LA English
AB Type I allergy is an IgE-mediated hypersensitivity disease inflicting more than quarter of the world population. In order to identify allergen sources, skin provocation test and IgE serol. was performed using allergen exts. Such process identifies allergen-contg. sources but cannot identify the disease-eliciting allergenic mols. Recently, microarray technol. has been developed for allergen-specific IgE detection using ***rolling*** ***circle*** ***amplification*** This study was carried out to evaluate protein chip technol. for the quant. measurement and limits of sensitivity of multiple allergen-specific IgE by an immunofluorescence assay. Significance of pos. calibrators was tested using purified human IgE. Dermatophagoides pteronyssinus (Dp), egg white, milk, soybean, and wheat were used as allergens and human serum albumin as neg. control. Sensitivity and clin. efficacy of protein chip were evaluated using allergy immune serum for Dp. The fluorescent intensities for purified human IgE as calibrator were well correlated with the concns. of human IgE. Two-fold diln. of serum allowed an optimal reaction with Dp (1 mg/mL) at which serum Dp-specific IgE levels by protein chip were compatible with those by UniCap. The sensitivity of protein chip in this study was found at level of 1 IU/mL of IgE. Dp-specific IgE levels by protein chip correlated well with those of UniCap by comparing 10 atopic dermatitis. Addnl. 18 sera were tested for above multiple antigens other than Dp and significant results were obtained for many antigens as well as Dp. These results indicated that spotting of heterogeneous protein mixt. on protein chip and the quant. measurement of serum allergen-specific IgE levels using immunofluorescence assay can be successfully applied in the clin. lab. for the diagnosis of allergy and could be applied to diagnosis of autoimmune and infectious diseases.
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 40 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:291218 CAPLUS
DN 136:384549
TI Multiplexed protein profiling on microarrays by ***rolling*** - ***circle*** ***amplification***
AU Schweitzer, Barry; Roberts, Scott; Grimwade, Brian; Shao, Weiping; Wang, Minjuan; Fu, Qin; Shu, Quiping; Laroche, Isabelle; Zhou, Zhimin; Tchernev, Velizar T.; Christiansen, Jason; Velleca, Mark; Kingsmore, Stephen F.
CS Molecular Staging, Inc., New Haven, CT, 06511, USA
SO Nature Biotechnology (2002), 20(4), 359-365 CODEN: NABIF9; ISSN: 1087-0156
PB Nature America Inc.
DT Journal
LA English
AB Fluorescent-sandwich immunoassays on microarrays hold appeal for proteomics studies, because equipment and antibodies are readily available, and assays are simple, scalable, and reproducible. The achievement of adequate sensitivity and specificity, however, requires a general method of immunoassay amplification. We describe coupling of isothermal ***rolling*** - ***circle*** ***amplification*** (RCA) to universal antibodies for this purpose. A total of 75 cytokines were measured simultaneously on glass arrays with signal amplification by RCA with high specificity, femtomolar sensitivity, 3 log quant. range, and economy of sample consumption. A 51-feature RCA cytokine glass array was used to measure secretion from human dendritic cells (DCs) induced by lipopolysaccharide (LPS) or tumor necrosis factor-.alpha. (TNF-.alpha.). As expected, LPS induced rapid secretion of inflammatory cytokines such as macrophage inflammatory protein (MIP)-1 .beta., interleukin (IL)-8, and interferon- inducible protein (IP)-10. We found that eotaxin-2 and 1-309 were induced by LPS; in addn., macrophage- derived chemokine (MDC), thymus and activation-regulated chemokine (TARC), sol. interleukin 6 receptor (sIL-6R), and sol. tumor necrosis factor receptor I (sTNF-RI) were induced by TNF-.alpha. treatment. Because microarrays can accommodate .apprx.1,000 sandwich immunoassays of this type, a relatively small no. of RCA microarrays seem to offer a tractable approach for proteomic surveys.
RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 41 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:241016 CAPLUS
DN 136:275684
TI Microsphere-based multiplexed assay for flow cytometry of nucleic acids
IN Jacobson, James W.; Burroughs, Jennifer L.; Oliver, Kerry G.
PA Luminex Corporation, USA
SO PCT Int. Appl., 49 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2002024959 A2 20020328 WO 2001-US29743 20010924
WO 2002024959 A3 20030821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG US 2003054356 A1 20030320 US 2001-956857 20010921 AU 2001094648 A5 20020402 AU 2001-94648 20010924
PRAI US 2000-234340P P 20000922 WO 2001-US29743 W 20010924
AB The invention concerns a method for detecting a plurality of reactive sites on an analyte, comprising allowing reactants on an addressable microsphere and the reactive sites to react, forming reactant-reactive site pairs distinguishable by fluorescence intensity. The invention also provides a method for detecting a plurality of analytes in a sample using addressable microspheres in combination with one or more reporter reagents. Also provided are a method for detg. allele zygosity of a genetic locus having two alleles or more alleles using microparticles, and a method for detecting a plurality of SNPs in nucleic acid mols. The instant invention also provides a compn. comprising an

addressable microsphere carrying at least two fluorescent reactants capable of forming reactant-analyte pairs distinguishable by their fluorescence intensity, and kits comprising the inventive compn. and a plurality of reporter reagents.

L5 ANSWER 42 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:114627 CAPLUS
DN 137:42232
TI ***Rolling*** - ***circle*** ***amplification*** under topological constraints
AU Kuhn, Heiko; Demidov, Vadim V.; Frank-Kamenetskii, Maxim D.
CS Center for Advanced Biotechnology, Department of Biomedical Engineering, Boston University, Boston, MA, 02215, USA
SO Nucleic Acids Research (2002), 30(2), 574-580 CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB The authors have performed ***rolling*** - ***circle*** ***amplification*** (RCA) reactions on three DNA templates that differ distinctly in their topol.: an unlinked DNA circle, a linked DNA circle within a pseudorotaxane-type structure and a linked DNA circle within a catenane. In the linked templates, the single-stranded circle (dubbed earring probe) is threaded, with the aid of two peptide nucleic acid openers, between the two strands of double-stranded DNA (dsDNA). The RCA efficiency of amplification was essentially unaffected when the linked templates were employed. By showing that the DNA catenane remains intact after RCA reactions, the authors prove that certain DNA polymerases can carry out the replicative synthesis under topol. constraints allowing detection of several hundred copies of a dsDNA marker without DNA denaturation. These finding may have practical implications in the area of DNA diagnostics.
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 43 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:68770 CAPLUS
DN 137:135523
TI DNA ligases and ligase-based technologies
AU Cao, Weiguo
CS Department of Genetics and Biochemistry, South Carolina Experiment Station, Clemson University, Clemson, SC, 29634-0324, USA
SO Clinical and Applied Immunology Reviews (2001), 2(1), 33-43 CODEN: CAIRCF; ISSN: 1529-1049
PB Elsevier Science Inc.
DT Journal; General Review
LA English
AB A review with refs. DNA ligases catalyze the strand joining reaction at a nick junction. The requirement of base-pair complementarity at the nick junction has been explored for development of ligase-based technologies for mutation detection. In oligonucleotide ligation assay (OLA), two DNA probes complementary to the target sequence are joined by DNA ligase. One probe is biotinylated for signal capture and the other is linked with a reporter group for detection. The availability of high fidelity thermostable ligases enables the ligation reaction to be performed in a thermocycling format. Ligase detection reaction (LDR) employs one pair of DNA probes. Continuous target denaturation, probe annealing and strand joining linearly amplify a target sequence. Ligase chain reaction (LCR) or ligase amplification reaction (LAR) employs two complementary pairs of DNA probes for achieving exponential signal amplification. Gap-LCR utilizes DNA polymerase to seal a gap and ligase to seal the nick, preventing template-independent ligation assocd. with LCR or LAR. Polymerase chain reaction (PCR)/LDR has been integrated with an addressable universal array technique to allow highly sensitive and high throughput detection of cancer mutations. Padlock probes are designed for localized allele-specific detection in situ. ***Rolling*** ***circle*** ***amplification*** (RCA), coupled with allele-specific ligation, enables detection of single-nucleotide difference in a single cell. ImmunoRCA, which attaches a RCA primer to an antibody, offers an ultrasensitive method for antigen detection.
RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 44 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:914609 CAPLUS
DN 136:380790
TI Detection of DNA point mutations and mRNA expression levels by ***rolling*** ***circle*** ***amplification*** in individual cells
AU Christian, Allen T.; Pattee, Melissa S.; Attix, Christina M.; Reed, Beth E.; Sorensen, Karen J.; Tucker, James D.
CS Biology and Biotechnology Research Program, Lawrence Livermore National Laboratory, Livermore, CA, 94551, USA
SO Proceedings of the National Academy of Sciences of the United States of America (2001), 98(25), 14238-14243 CODEN: PNASA6; ISSN: 0027-8424
PB National Academy of Sciences
DT Journal
LA English
AB ***Rolling*** ***circle*** ***amplification*** has been useful for detecting point mutations in isolated nucleic acids, but its application in cytol. prepns. has been problematic. By pretreating cells with a combination of restriction enzymes and exonucleases, we demonstrate that ***rolling*** ***circle*** ***amplification*** in situ can detect gene copy no. and single base mutations in fixed cells with efficiencies up to 90%. It can also detect and quantify transcribed RNA in individual cells, making it a versatile tool for cell-based assays.
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 45 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:909874 CAPLUS
DN 136:364371
TI Signal amplification by ***rolling*** ***circle*** ***amplification*** on DNA microarrays
AU Nallur, Girish; Luo, Chenghua; Fang, Linhua; Cooley, Stephanie; Dave, Varshal; Lambert, Jeremy; Kukanskis, Kari; Kingsmore, Stephen; Lasken, Roger; Schweitzer, Barry
CS Molecular Staging Inc., New Haven, CT, 06511, USA
SO Nucleic Acids Research (2001), 29(23), e118/1-e118/9
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB While microarrays hold considerable promise in large-scale biol. on account of their massively parallel anal. nature, there is a need for compatible signal amplification procedures to increase sensitivity without loss of multiplexing. ***Rolling*** ***circle*** ***amplification*** (RCA) is a mol. amplification method with the unique property of product

localization. This report describes the application of RCA signal amplification for multiplexed, direct detection and quantitation of nucleic acid targets on planar glass and gel-coated microarrays. As few as 150 mols. bound to the surface of microarrays can be detected using RCA. Because of the linear kinetics of RCA, nucleic acid target mols. may be measured with a dynamic range of four orders of magnitude. Consequently, RCA is a promising technol. for the direct measurement of nucleic acids on microarrays without the need for a potentially biasing preamplification step.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 46 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:909215 CAPLUS
DN 136:364368
TI L-RCA (ligation- ***rolling*** ***circle*** ***amplification***): a general method for genotyping of single nucleotide polymorphisms (SNPs)
AU Qi, Xiaoquan; Bakht, Saleha; Devos, Katrien M.; Gale, Mike D.; Osbourn, Anne
CS Sainsbury Laboratory and tJohn Innes Centre, Norwich Research Park, Colney, Norwich, NR4 7UH, UK
SO Nucleic Acids Research (2001), 29(22), e116/1-e116/7
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB A flexible, non-gel-based single nucleotide polymorphism (SNP) detection method is described. The method adopts thermostable ligation for allele discrimination and ***rolling*** ***circle*** ***amplification*** (RCA) for signal enhancement. Clear allelic discrimination was achieved after staining of the final reaction mixts. with Cyber-Gold and visualization by UV illumination. The use of a compatible buffer system for all enzymes allows the reaction to be initiated and detected in the same tube or microplate well, so that the expt. can be scaled up easily for high-throughput detection. Only a small amt. of DNA (i.e. 50 ng) is required per assay, and use of carefully designed short padlock probes coupled with generic primers and probes make the SNP detection cost effective. Biallelic assay by hybridization of the RCA products with fluorescence dye-labeled probes is demonstrated, indicating that ligation-RCA (L-RCA) has potential for multiplexed assays.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 47 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:844018 CAPLUS
DN 136:319947
TI Interrogation of multimeric DNA amplification products by competitive primer extension using Bst DNA polymerase (large fragment)
AU Voisey, J.; Hafner, G. J.; Morris, C. P.; van Daal, A.; Giffard, P. M.
CS CRC for Diagnostics, Brisbane, Australia
SO BioTechniques (2001), 31(5), 1122-1129 CODEN: BTNQDO; ISSN: 0736-6205
PB Eaton Publishing Co.
DT Journal
LA English
AB Linear dsDNA composed of tandem repeats may be exponentially amplified by the strongly strand-displacing Bst DNA polymerase (large fragment) and two primers specific for opposite strands. When the repetitive DNA is derived from rolling circle replication of a circular template, the reaction is termed cascade ***rolling*** ***circle*** ***amplification*** (CRCA). We have developed a variant of CRCA in which one primer is attached to the surface of a microwell and the other is labeled, thus enabling detection of amplified material using an ELISA-like protocol. The circular template is derived by annealing and ligation of a padlock on target DNA. It was found that there was good correlation between the synthesis of amplified material and signal. The specificity of the reaction with respect to single-nucleotide polymorphisms was investigated, and it was found that Bst DNA polymerase is prone to extension from primers with mismatched 3' ends. Reliable single nucleotide specificity was only obtained when pre-synthesized amplified material was interrogated by competitive primer extension.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 48 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:833555 CAPLUS
DN 135:367766
TI Methods for identifying polynucleotide repeat regions of defined length in the diagnostic detection of repeat length polymorphisms
IN Brockhurst, Veronica; Timms, Peter; Wolter, Lindsay; Barnard, Ross; Giffard, Philip Morrison
PA Diatech Pty. Ltd., Australia
SO PCT Int. Appl., 89 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2001085987 A1 20011115 WO 2001-AU526 20010509
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG AU 2001054529 A5 20011120 AU 2001-54529 20010509 US 2003104376 A1 20030605 US 2001-852903 20010509
PRAI US 2000-202771P P 20000509 US 2000-202559P P 20000510 WO 2001-AU526 W 20010509
AB The present invention relates generally to a method for identifying or otherwise detecting a nucleotide repeat region having a particular length in a nucleic acid mol. Varying lengths of the repeat region at particular genetic locations represent nucleotide length polymorphisms. The present invention provides, therefore, a method for identifying a nucleotide length polymorphism such as associd. with a particular human individual or animal or mammalian subject or for a disease condition or a predisposition for a disease condition to develop in a particular individual or subject. The method of the present invention is also useful for identifying and/or typing micro-organisms including yeasts and lower uni- and multi-cellular organisms as well as prokaryotic micro-organisms. The method of the present invention is further useful in genotyping subjects including humans. The method of the present invention is referred to herein as a "ligase-assisted spacer addn." assay or "LASA" assay.

The method uses three oligonucleotides: two probes hybridizing to sequences flanking the polymorphic site and a probe corresponding to the repeat length of interest. One of the flanking probes is labeled with an affinity label and the other is labeled with a reporter group. The three oligonucleotides are hybridized with the target DNA and subjected to a ligase chain reaction. The reaction products are then passed through an affinity column. If the spacer was of the correct length the reporter group will have been incorporated into the ligation product and will be detectable. Optimization expts. are described.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 49 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:828407 CAPLUS
DN 137:28662
TI High-throughput genotyping of single nucleotide polymorphisms with rolling cycle amplification
AU Faruqi, Fawad A.; Hosono, Seiyu; Driscoll, Mark D.; Dean, Frank B.; Alsmadi, Osama; Bandaru, Rajanikanta; Kumar, Gyanendra; Grimwade, Brian; Zong, Qiuling; Sun, Zhenyu; Du, Yuefen; Kingsmore, Stephen; Knott, Tim; Lasken, Roger S.
CS Molecular Staging Inc., New Haven, CT, 06511, USA
SO BMC Genomics [online computer file] (2001), 2, No pp. given CODEN: BGMEET; ISSN: 1471-2164 URL: http://www.biomedcentral.com/1471-2164/2/4
PB BioMed Central Ltd.
DT Journal; (online computer file)
LA English
AB Single nucleotide polymorphisms (SNPs) are the foundation of powerful complex trait and pharmacogenomic analyses. The availability of large SNP databases, however, has emphasized a need for inexpensive SNP genotyping methods of commensurate simplicity, robustness, and scalability. We describe a soln.-based, microtiter plate method for SNP genotyping of human genomic DNA. The method is based upon allele discrimination by ligation of open circle probes followed by ***rolling*** ***circle*** ***amplification*** of the signal using fluorescent primers. Only the probe with a 3' base complementary to the SNP is circularized by ligation. SNP scoring by ligation was optimized to a 100,000 fold discrimination against probe mismatched to the SNP. The assay was used to genotype 10 SNPs from a set of 192 genomic DNA samples in a high-throughput format. Assay directly from genomic DNA eliminates the need to preamplify the target as done for many other genotyping methods. The sensitivity of the assay was demonstrated by genotyping from 1 ng of genomic DNA. We demonstrate that the assay can detect a single mol. of the circularized probe. Compatibility with homogeneous formats and the ability to assay small amts. of genomic DNA meets the exacting requirements of automated, high-throughput SNP scoring.
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 50 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:781073 CAPLUS
DN 135:328100
TI Detection and amplification of RNA using target-mediated ligation of DNA by RNA ligase
IN Faruqi, A. Fawad
PA Molecular Staging, Inc., USA
SO PCT Int. Appl., 40 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- --------
PI WO 2001079420 A2 20011025 WO 2001-US11947 20010412 WO 2001079420 A3 20030320 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG US 6368801 B1 20020409 US 2000-547757 20000412 CA 2405456 AA 20011025 CA 2001-2405456 20010412 AU 2001055331 A5 20011030 AU 2001-55331 20010412 EP 1311703 A2 20030521 EP 2001-928481 20010412 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR JP 2003534782 T2 20031125 JP 2001-577404 20010412
PRAI US 2000-547757 A 20000412 WO 2001-US11947 W 20010412
AB Disclosed are techniques for detection of nucleic acids, amplification of nucleic acids, or both, involving ligation by T4 RNA ligase of DNA strands hybridized to an RNA strand. These techniques are particularly useful for the detection of RNA sequences and for amplification of nucleic acids from, or dependent on, RNA sequences. It has been discovered that T4 RNA ligase can efficiently ligate DNA ends of nucleic acid strands hybridized to an RNA strand. In particular, this ligation is more efficient than the same ligation carried out with T4 DNA ligase. Thus, techniques involving ligation of DNA ends of nucleic acid strands hybridized to RNA can be performed more efficiently by using T4 RNA ligase. Many known ligation-based detection and amplification techniques are improved through the use of T4 RNA ligase acting on DNA strands or ends. Such techniques include ligase chain reaction (LCR), ligation combined with reverse transcription polymerase chain reaction (RT PCR), ligation-mediated polymerase chain reaction (LMPCR), polymerase chain reaction/ligation detection reaction (PCR/LDR), ligation-dependent polymerase chain reaction (LD-PCR), oligonucleotide ligation assay (OLA), ligation-during- amplification (LDA), ligation of padlock probes, open circle probes, and other circularizable probes, and iterative gap ligation (IGL).

L5 ANSWER 51 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:758936 CAPLUS
DN 136:380637
TI Development of SNPs typing technology
AU Kato, Ikunosuke; Sagawa, Hioaki
CS Bio-Research Lab., Takara Shuzo Co., Ltd., Japan
SO Biobencha (2001), 1(1), 45-52 CODEN: BIOBC8; ISSN: 1346-5376
PB Yodosha
DT Journal; General Review
LA Japanese
AB A review gives an overview of SNP typing-assocd. genetic technologies. SNP-detection methods were presented by classifying them into three categories based on the difference in the mechanisms underlying the SNP detection. These included the system using primers and DNA polymerase, the method using DNA ligase, and the Invader methods using cleavase that recognized one base insertion. The tech. improvement for

increasing sensitivity by introducing more efficient DNA amplification technol. such as RCA (***Rolling*** ***Circle*** ***Amplification***) or ICAN (Isothermal and Chimeric primer-initiated Amplification of Nucleic acid) method was described. For the case when multiple SNP sites in the single gene were needed to be detected, DNA hybridization technologies using tag or zip-code probes were presented. Larger scale analyses using DNA sequencer of artificially produced mouse SNPs by random mutagenesis with ENU (N-Et N-nitrosourea) was also discussed.

L5 ANSWER 52 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:756591 CAPLUS
DN 136:273650
TI Strategies for signal amplification in nucleic acid detection
AU Andras, S. Calin; Power, J. Brian; Cocking, Edward C.; Davey, Michael R.
CS Plant Science Division, School of Biosciences, University of Nottingham, Nottingham, NG7 2RD, UK
SO Molecular Biotechnology (2001), 19(1), 29-44 CODEN: MLBOEO; ISSN: 1073-6085
PB Humana Press Inc.
DT Journal; General Review
LA English
AB A review, with refs. Many aspects of mol. genetics necessitate the detection of nucleic acid sequences. Current approaches involving target amplification (in situ PCR, Primed in situ Labeling, Self-Sustained Sequence Replication, Strand Displacement Amplification), probe amplification (Ligase Chain Reaction, Padlock Probes, ***Rolling*** ***Circle*** ***Amplification***) and signal amplification (Tyramide Signal Amplification, Branched DNA Amplification) are summarized in the present review, together with their advantages and limitations.
RE.CNT 96 THERE ARE 96 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 53 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:679202 CAPLUS
DN 136:335661
TI Multiplex detection of hotspot mutations by rolling circle-enabled universal microarrays
AU Ladner, Daniela P.; Leamon, John H.; Hamann, Stefan; Tarafa, Gemma; Strugnell, Todd; Dillon, Deborah; Lizardi, Paul; Costa, Jose
CS Department of Pathology, Yale New Haven Hospital, Yale University, New Haven, CT, USA
SO Laboratory Investigation (2001), 81(8), 1079-1086 CODEN: LAINAW; ISSN: 0023-6837
PB Lippincott Williams & Wilkins
DT Journal
LA English
AB Detection of somatic low abundance mutations in early cancer development requires a discriminatory, specific, and high-throughput methodol. In this study we report specific, discriminatory detection of low abundance mutations through a novel combination of ***rolling*** ***circle*** ***amplification*** and PCR ligation detection reaction on a universal oligonucleotide microarray. After mutation-specific multiplex ligation and hybridization of 17 pairs of probes to a generic microarray, the ligated probes were visualized. The multiplex mutation-specific ligation is possible only because ***rolling*** ***circle*** ***amplification*** permits quantification of previously undetectable hybridization events conducive to the detection of a single mutation from within a pool of over 100 wild-type alleles. This system is readily adaptable to high-throughput automation using a robot such as the Biomek platform.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 54 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:675055 CAPLUS
DN 136:242388
TI ***Rolling*** ***circle*** ***amplification*** for scoring single nucleotide polymorphisms
AU Rosler, A.; Bailey, L.; Jones, S.; Bayliss, J.; Cuss, S.; Horsey, I.; Kenrick, M.; Kingsmore, S.; Kent, L.; Pickering, J.; Knott, T.; Shipstone, E.; Scozzafava, G.
CS Amersham Pharmacia Biotech UK Limited, Little Chalfont, UK
SO Nucleosides, Nucleotides & Nucleic Acids (2001), 20(4-7), 893-894 CODEN: NNNAFY; ISSN: 1525-7770
PB Marcel Dekker, Inc.
DT Journal
LA English
AB The anal. of the genetic basis of phenotypic traits is moving towards the complex diseases prevalent in wealthy populations. There is an increasing requirement for the detection of different types of sequence variation, particularly single-nucleotide polymorphisms (SNPs). SNPs occur about once every 100 to 300 bases. High-d. SNP maps will help to identify the multiple genes associd. with complex diseases such as cancer, diabetes, vascular disease, and some forms of mental illness. A SNP typing technol., SNiPerTM, was developed based on the detection of ligated genomic DNA products by ***rolling*** ***circle*** ***amplification*** (RCA) and fluorescence based end-point detection, without the need for any purifn. steps. SNiPer combines the RCA assay with robotic liq. handling and automated plate manipulation to form a fully integrated SNP scoring system.
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 55 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:661659 CAPLUS
DN 135:222335
TI Method for reducing artifacts in nucleic acid amplification using template-deficient oligonucleotides as primers
IN Dean, Frank B.; Faruqi, A. Fawad
PA Molecular Staging, Inc., USA
SO PCT Int. Appl., 99 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2001064952 A2 20010907 WO 2001-US6491 20010228
WO 2001064952 A3 20021227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
CA 2401650 AA 20010907 CA 2001-2401650 20010228
EP 1261726 A2 20021204 EP 2001-913174 20010228
R: AT, BE, CH, DE, DK, ES,

FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR JP 2003525055 T2 20030826 JP 2001-563639 20010228
PRAI US 2000-514113 A 20000228 WO 2001-US6491 W 20010228
AB Disclosed are compns. and methods useful for reducing the formation of artifacts during nucleic acid amplification reactions. The method uses special oligonucleotides, referred to herein as template-deficient oligonucleotides, that cannot serve as a template for nucleic acid synthesis over part of their length. This prevents the oligonucleotides from serving as effective templates in the formation of artifacts. The disclosed method involves using a template-deficient oligonucleotide as at least one of the oligonucleotides (preferably a primer) in a nucleic acid amplification reaction, where the template-deficient oligonucleotide comprises one or more template-deficient nucleotides, preferably at or near the 5' end of the template-deficient oligonucleotide. The template-deficient nucleotides include modified nucleotides, derivatized nucleotides and ribonucleotides, such as abasic nucleotides and 2'-O-Me ribonucleotides. The disclosed method is useful for reducing artifacts in any nucleic acid amplification reaction involving oligonucleotides. The disclosed method is effective at reducing non-cycle oligonucleotide-based artifacts. Also disclosed are kits useful for reducing artifacts in nucleic acid amplification reactions. The disclosed kits include a template-deficient oligonucleotide, wherein the template-deficient oligonucleotide comprises one or more template-deficient nucleotides, and a nucleic acid polymerase.

L5 ANSWER 56 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:650480 CAPLUS
DN 135:206436
TI ***Rolling*** ***circle*** ***amplification*** of DNA immobilized on solid surfaces and the detection of genetic polymorphisms
IN Sabanayagam, Chandran R.; Sano, Takeshi; Misasi, John; Hatch, Anson; Cantor, Charles
PA Trustees of Boston University, USA
SO U.S., 23 pp. CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 6284497 B1 20010904 US 1999-287781
19990408 US 2002076716 A1 20020620 US 2001-886779 20010621
PRAI US 1998-81254P P 19980409 US 1999-287781 A1 19990408
AB The present invention generally relates to high d. nucleic acid arrays and methods of synthesizing nucleic acid sequences on a solid surface. Specifically, the present invention contemplates the use of stabilized nucleic acid primer sequences immobilized on solid surfaces, and circular nucleic acid sequence templates combined with the use of isothermal ***rolling*** ***circle*** ***amplification*** to thereby increase nucleic acid sequence concns. in a sample or on an array of nucleic acid sequences.
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 57 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:611693 CAPLUS
DN 135:191243
TI Detection of nucleic acids by selective depolymerization of probes hybridized to a target sequence and detection of specific hydrolysis products
IN Shultz, John William; Lewis, Martin K.; Leippe, Donna; Mandrekar, Michelle; Andrews, Christine Ann; Hartnett, James Robert; Welch, Roy
PA Promega Corporation, USA
SO U.S., 45 pp., Cont.-in-part of U.S. Ser. No. 358,972. CODEN: USXXAM
DT Patent
LA English
FAN.CNT 18 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 6277578 B1 20010821 US 1999-430615
19991029 US 6335162 B1 20020101 US 1998-42287
19980313 US 6159693 A 20001212 US 1999-252436
19990218 US 6235480 B1 20010522 US 1999-358972
19990721
PRAI US 1998-42287 A2 19980313 US 1999-252436 A2 19990218 US 1999-358972 A2 19990721
AB The detection of enhanced, targeted predetd. nucleic acid sequences in nucleic acid target hybrids, and the various applications of target nucleic acid enhancement are disclosed. This invention discloses methods for detecting specific nucleic acid sequences, interrogating the identity of a specific base within a sequence, and assaying endonuclease and exonuclease activity. DNA or RNA probes are hybridized to target nucleic acid sequences. Probes that are complementary to the target sequence at each base are depolymd., while probes which differ from the target at the interrogation position are not depolymd. The nucleic acid detection systems utilize the pyrophosphorolysis reaction catalyzed by various polymerases to produce deoxyribonucleoside triphosphates or ribonucleoside triphosphates with deoxyribonucleoside triphosphates converted transformed to ATP by the action of nucleoside diphosphate kinase. The ATP produced by these reactions is detected by luciferase or NADH based detection systems. Alternatively, dye-labeled probes can be used with the released dye detection fluorimetrically, spectrophotometrically, or by mass spectrometry.
RE.CNT 115 THERE ARE 115 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 58 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:572576 CAPLUS
DN 136:242353
TI ***Rolling*** ***circle*** ***amplification***: A new approach to increase sensitivity for immunohistochemistry and flow cytometry
AU Gusev, Yuriy; Sparkowski, Jason; Raghunathan, Arumugham; Ferguson, Harley, Jr.; Montano, Jane; Bogdan, Nancy; Schweitzer, Barry; Wiltshire, Steven; Kingsmore, Stephen F.; Maltzman, Warren; Wheeler, Vanessa
CS Molecular Staging Inc., New Haven, CT, 06511, USA
SO American Journal of Pathology (2001), 159(1), 63-69
CODEN: AJPAA4; ISSN: 0002-9440
PB American Society for Investigative Pathology
DT Journal
LA English
AB Immunohistochem. is a method that can provide complementary diagnostic and prognostic information to morphol. observations and sol. assays. Sensitivity, specificity, or requirements for arduous sample prepn. or signal amplification procedures often limit the application of this approach to routine clin. specimens. ***Rolling*** ***circle***

amplification (RCA) generates a localized signal via an isothermal amplification of an oligonucleotide circle. The application of this approach to immunohistochem. could extend the utility of these methods to include a more complete set of immunol. and mol. probes. RCA-mediated signal amplification was successfully applied to the sensitive and specific detection of a variety of cell surface antigens (CD3, CD20, and epithelial membrane antigen) and intracellular mols. (vimentin and prostate-specific antigen) within a variety of routinely fixed specimens, as well as samples prepd. for flow cytometry. RCA technol., which has an intrinsically wide dynamic range, is a robust and simple procedure that can provide a universal platform for the localization of a wide variety of mols. as a function of either antigenicity or nucleic acid sequence. The use of RCA in this way could enhance the use of markers of current interest as well as permit the integration of emerging information from genomics and proteomics into cell- and tissue-based analyses.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 59 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:560666 CAPLUS
DN 136:227393
TI Ramification amplification: A novel isothermal DNA amplification method
AU Zhang, David Y.; Brandwein, Margaret; Hsuih, Terence; Li, Hong Bo
CS Departments of Pathology and Otolaryngology, Mount Sinai School of Medicine, New York University, New York, NY, USA
SO Molecular Diagnosis (2001), 6(2), 141-150 CODEN: MDIAFU; ISSN: 1084-8592
PB Churchill Livingstone
DT Journal
LA English
AB We have developed a novel isothermal DNA amplification method with an amplification mechanism quite different from conventional PCR. This method uses a specially designed circular probe (C-probe) in which the 3' and 5' ends are brought together in juxtaposition by hybridization to a target. The two ends are then covalently linked by a T4 DNA ligase in a target-dependent manner, producing a closed DNA circle. In the presence of an excess of primers (forward and reverse primers), a DNA polymerase extends the bound forward primer along the C-probe and displaces the downstream strand, generating a multimeric single-stranded DNA (ssDNA), analogous to the "rolling circle" replication of bacteriophages in vivo. This multimeric ssDNA then serves as a template for multiple reverse primers to hybridize, extend, and displace downstream DNA, generating a large ramified (branching) DNA complex. This ramification process continues until all ssDNAs become double-stranded, resulting in an exponential amplification that distinguishes itself from the previously described nonexponential ***rolling*** ***circle*** ***amplification***. In this report, we prove the principle of ramification amplification. By using a unique bacteriophage DNA polymerase, .phi.29 DNA Polymerase, that has an intrinsic high processivity, we are able to achieve significant amplification within 1 h at 35.degree.C. In addn., we applied this technique for in situ detection of Epstein-Barr viral sequences in Raji cells.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 60 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:449701 CAPLUS
DN 136:178466
TI In Situ Detection of Messenger RNA Using Digoxigenin-Labeled Oligonucleotides and ***Rolling*** ***Circle*** ***Amplification***
AU Zhou, Yi; Calciano, Margaret; Hamann, Stefan; Leamon, J. H.; Strugnell, Tod; Christian, Matthew W.; Lizardi, Paul M.
CS Department of Pathology, Yale University School of Medicine, New Haven, CT, 06520, USA
SO Experimental and Molecular Pathology (2001), 70(3), 281-288 CODEN: EXMPA6; ISSN: 0014-4800
PB Academic Press
DT Journal
LA English
AB The detection of specific RNA mols. in situ is routinely performed using haptenated probes, which are detected by either enzymic amplification or direct fluorescence. A drawback of fluorescence labeling has been the reduced sensitivity relative to that of methods that use enzymes as signal generators. Reliable fluorescence detection methods often require the use of multiple oligonucleotide probes for each gene target. Here, we demonstrate that single haptenated DNA probes specific for actin mRNA may be detected in situ using antibody-coupled ***rolling*** ***circle*** ***amplification*** (immuno-RCA). This fluorescence-based detection method offers remarkable sensitivity due to the use of signal amplification and yet retains the ability to count hybridization signals as discrete objects. We demonstrate the detection of actin-specific immuno-RCA signals in the cytoplasm and use 3D image deconvolution of multiple z axis sections to show that there are hundreds of signals per cell. With some modifications, this method may be adaptable to the simultaneous detection of several RNA species, including low-copy-no. mRNA. (c) 2001 Academic Press.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 61 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:429893 CAPLUS
DN 136:96853
TI Rapid amplification of plasmid and phage DNA using phi29 DNA polymerase and multiply-primed ***rolling*** ***circle*** ***amplification***
AU Dean, Frank B.; Nelson, John R.; Giesler, Theresa L.; Lasken, Roger S.
CS Molecular Staging, Inc., New Haven, CT, 06511, USA
SO Genome Research (2001), 11(6), 1095-1099 CODEN: GERERS; ISSN: 1088-9051
PB Cold Spring Harbor Laboratory Press
DT Journal
LA English
AB We describe a simple method of using ***rolling*** ***circle*** ***amplification*** to amplify vector DNA such as M13 or plasmid DNA from single colonies or plaques. Using random primers and .phi.29 DNA polymerase, circular DNA templates can be amplified 10,000-fold in a few hours. This procedure removes the need for lengthy growth periods and traditional DNA isolation methods. Reaction products can be used directly for DNA sequencing after phosphatase treatment to inactivate unincorporated nucleotides. Amplified products can also be used for in vitro cloning, library construction, and other mol. biol. applications.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 62 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:397094 CAPLUS
DN 135:1214
TI Nucleic acid probe arrays for detecting polymorphism
IN Rothberg, Jonathan M.; Bader, Joel S.
PA Curagen Corporation, USA
SO PCT Int. Appl., 42 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2001038580 A2 20010531 WO 2000-US32131 20001127
WO 2001038580 C2 20021205
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
CA 2392474 AA 20010531
CA 2000-2392474 20001127
EP 1234058 A2 20020828
EP 2000-980700 20001127
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
JP 2003515149 T2 20030422
JP 2001-539921 20001127
PRAI US 1999-449402 A2 19991126
WO 2000-US32131 W 20001127
AB Disclosed are nucleic acid probe arrays and methods of identifying and sequencing nucleic acids in a population of nucleic acids using the arrays. The method is preferably performed by annealing a nucleic acid template to an anchor primer attached to a surface of the array. The annealed linear target nucleic acid is circularized using one or two ligation reactions. This circularized nucleic acid is a template for extension of the anchor primer in a ***rolling*** ***circle*** ***amplification*** reaction. An extended anchor primer contg. multiple copies of a sequence complementary to the circular nucleic acid is formed. The presence of multiple copies of the complementary sequence facilitates detection of the nucleic acid.

L5 ANSWER 63 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:356144 CAPLUS Correction of: 2000:596003
DN 134:321319 Correction of: 134:247831
TI Single nucleotide polymorphism (SNP) typing by ***rolling*** - ***circle*** ***amplification*** (RCA)
AU Tanaka, Toshihiro
CS Institute of Medical Science, University of Tokyo, Japan
SO Posutoshikuensu no Genomu Kagaku (2000), Volume 1, 118-127. Editor(s): Nakamura, Yusuke. Publisher: Nakayama Shoten, Tokyo, Japan. CODEN: 69AWVM
DT Conference; General Review
LA Japanese
AB A review with 2 refs. on the principles of the rolling circle amplication (RCA) method for DNA amplification, and applications of the RCA method for genotyping of single nucleotide polymorphism in DNA.

L5 ANSWER 64 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:294907 CAPLUS
DN 134:306130
TI ***Rolling*** ***circle*** ***amplification*** assay for nucleic acid sequence analysis and detection of genetic polymorphisms
IN Mahtani, Melanie M.
PA Molecular Dynamics, Inc., USA
SO U.S., 14 pp. CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI US 6221603 B1 20010424 US 2000-498585 20000204
WO 2001057256 A2 20010809 WO 2001-US3439 20010202
WO 2001057256 A3 20020725
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1252334 A2 20021030
EP 2001-906910 20010202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
PRAI US 2000-498585 A 20000204
WO 2001-US3439 W 20010202
AB Method and reagents for anal. of nucleic acid sequences are disclosed. This method involves padlock probes and provides for multiple padlock probes in a single assay. Each padlock probe may hybridize to a locus on a target nucleic acid under hybridization conditions. If a targeted variant is present at the locus, the padlock probe may be ligated to form an amplification target circle. The amplification target circle acts as a template for prodn. of tandem-sequence DNA. The tandem-sequence DNA may then be digested into non-tandem detection fragments which are subsequently sepd. and detected. The plurality of padlock probes are designed such that ligation of the probes, amplification of the target circle, and digestion of the tandem-sequence DNA subsequently produced, and detection may all be effected with the same set of reagents. Each probe targets a unique locus variant on the target nucleic acid sequence and produces a detection fragment that may be distinguished from detection fragments produced from other padlock probe in the plurality of padlock probes by using a fragment anal. detector. The ***rolling*** ***circle*** ***amplification*** assay with padlock probes may be used to identify genetic polymorphisms and to det. both alleles of single-nucleotide polymorphisms. The assay can be a high-throughput assay by using different labels for the probes and capillary array electrophoresis or capillary electrophoresis chips.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 65 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:286110 CAPLUS
DN 135:353404
TI Isothermal amplification and multimerization of DNA by Bst DNA polymerase
AU Hafner, G. J.; Yang, I. C.; Wolter, L. C.; Stafford, M. R.; Giffard, P. M.
CS Queensland University of Technology, Brisbane, Australia

SO BioTechniques (2001), 30(4), 852-
854,856,858,860,862,864,866-867 CODEN: BTNQDO; ISSN:
0736-6205
PB Eaton Publishing Co.
DT Journal
LA English
AB We have demonstrated the isothermal in vitro amplification and multimerization of several different linear DNA targets using only two primers and the strongly strand-displacing exonuclease-neg. Bst DNA polymerase. This reaction has been termed linear target isothermal multimerization and amplification (LIMA). LIMA has been compared with cascade ***rolling*** - ***circle*** ***amplification*** and has been found to be less sensitive but to yield similar variable-length multimeric dsDNA mols. Products from several different LIMA reactions were characterized by restriction anal. and partial sequence detn. They were found to be multimers of subsets of the target sequence and were not purely primer derived. The sensitivities with respect to target concn. of several different LIMA reactions were detd., and they varied from 0.01 amol to 1 fmol. The sensitivity and specificity of LIMA were further tested using E. coli genomic DNA, and the selective amplification of a transposon fragment was demonstrated. A successful strategy for reducing LIMA-dependent background DNA synthesis in ***rolling*** - ***circle*** ***amplification*** embodiments was devised. This entailed the affinity purifn. of circular DNA templates before amplification.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 66 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:266228 CAPLUS
DN 135:41521
TI Visualization of oligonucleotide probes and point mutations in interphase nuclei and DNA fibers using rolling circle DNA amplification
AU Zhong, Xiao-Bo; Lizardi, Paul M.; Huang, Xiao-Hua; Bray-Ward, Patricia L.; Ward, David C.
CS Department of Genetics, Yale University School of Medicine, New Haven, CT, 06510, USA
SO Proceedings of the National Academy of Sciences of the United States of America (2001), 98(7), 3940-3945 CODEN: PNASA6; ISSN: 0027-8424
PB National Academy of Sciences
DT Journal
LA English
AB ***Rolling*** ***circle*** ***amplification*** (RCA) is a surface-anchored DNA replication reaction that can be exploited to visualize single mol. recognition events. Here the authors report the use of RCA to visualize target DNA sequences as small as 50 nts in peripheral blood lymphocytes or in stretched DNA fibers. Three unique target sequences within the cystic fibrosis transmembrane conductance regulator gene could be detected simultaneously in interphase nuclei, and could be ordered in a linear map in stretched DNA. Allele-discriminating oligonucleotide probes in conjunction with RCA also were used to discriminate wild-type and mutant alleles in the cystic fibrosis transmembrane conductance regulator, p53, BRCA-1, and Gorlin syndrome genes in the nuclei of cultured cells or in DNA fibers. These observations demonstrate that signal amplification by RCA can be coupled to nucleic acid hybridization and multicolor fluorescence imaging to detect single nucleotide changes in DNA within a cytol. context or in single DNA mols. This provides a means for direct phys. haplotyping and the anal. of somatic mutations on a cell-by-cell basis.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 67 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:208461 CAPLUS
DN 134:247918
TI Method of sequencing a nucleic acid
IN Rothberg, Jonathan M.; Bader, Joel S.; Dewell, Scott B.; McDade, Keith; Simpson, John W.; Berka, Jan; Colangelo, Christopher M.
PA Curagen Corporation, USA
SO PCT Int. Appl., 67 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2001020039 A2 20010322 WO 2000-US25290 20000915
WO 2001020039 A3 20020321 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG US 6274320 B1 20010814 US 1999-398833 19990916 CA 2384510 AA 20010322 CA 2000-2384510 20000915 EP 1212467 A2 20020612 EP 2000-965029 20000915 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL JP 2003514514 T2 20030422 JP 2001-523808 20000915 US 2002012933 A1 20020131 US 2001-826141 20010404
PRAI US 1999-398833 A2 19990916 WO 2000-US25290 W 20000915
AB Methods and apparatuses for sequencing a nucleic acid are disclosed. In one aspect, the method includes annealing a population of circular nucleic acid mols. to a plurality of anchor primers linked to a solid support, and amplifying those members of the population of circular nucleic acid mols. which anneal to the target nucleic acid, and then sequencing the amplified mols. by detecting the presence of a sequence byproduct such as pyrophosphate.

L5 ANSWER 68 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:175504 CAPLUS
DN 135:267759
TI Combining nucleic acid amplification and detection
AU Schweitzer, Barry; Kingsmore, Stephen
CS Molecular Staging Inc., Guilford, CT, 06437, USA
SO Current Opinion in Biotechnology (2001), 12(1), 21-27
CODEN: CUOBE3; ISSN: 0958-1669
PB Elsevier Science Ltd.
DT Journal; General Review
LA English
AB A review with refs. Major recent advances in mol. amplification in the past year were initial validation of two new amplification technologies (***rolling*** ***circle*** ***amplification*** and Invader), a significant increase in the no. of mol. diagnostic assays, achievement of amplification directly on microarrays (by strand displacement amplification and ***rolling*** ***circle*** ***amplification***), and

description of two new read-out probes (Scorpions and nanoparticles).
RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 69 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:122970 CAPLUS
DN 135:267835
TI Peptide Nucleic Acid-Assisted Topological Labeling of Duplex DNA
AU Demidov, Vadim V.; Kuhn, Heiko; Lavrentieva-Smolina, Irina V.; Frank-Kamenetskii, Maxim D.
CS Center for Advanced Biotechnology, Department of Biomedical Engineering, Boston University, Boston, MA, 02215, USA
SO Methods (San Diego, CA, United States) (2001), 23(2), 123-131 CODEN: MTHDE9; ISSN: 1046-2023
PB Academic Press
DT Journal
LA English
AB Peptide nucleic acids (PNAs) are a family of synthetic polyamide mimics of nucleic acids that offer a variety of applications. Pyrimidine bis-PNAs can be used for rational design of novel interlocked DNA nanostructures, earring labels, representing locked pseudorotaxanes or locked catenanes. These structures are created through DNA ligase-mediated catenation of duplex DNA with a circularized oligonucleotide tag at a designated DNA site. The assembly is performed via formation of the PD-loop consisting of a pair of bis-PNA openers and the probe oligonucleotide. The openers locally expose one of the two strands of duplex DNA for hybridizing the probe, whose termini are complementary to the displaced DNA strand. After hybridization, they are in juxtaposition and can subsequently be linked by DNA ligase. As a result, a true topol. link forms at a precise position on the DNA double helix yielding locked, earring-like label. DNA topol. labeling can be done both in soln. and, for longer templates, within the agarose gel plug. Accordingly, highly localized DNA detection with ***rolling*** ***circle*** ***amplification*** of hybridization signal and effective micromanipulations with DNA duplexes become possible through precise spatial positioning of various ligands on the DNA scaffold. (c) 2001 Academic Press.
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 70 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:119885 CAPLUS
DN 135:205953
TI Enabling large-scale pharmacogenetic studies by high-throughput mutation detection and genotyping technologies
AU Shi, Michael M.
CS Department of Applied Genomics, Genometrix Inc., The Woodlands, TX, 77381, USA
SO Clinical Chemistry (Washington, DC, United States) (2001), 47(2), 164-172 CODEN: CLCHAU; ISSN: 0009-9147
PB American Association for Clinical Chemistry
DT Journal; General Review
LA English
AB A review, with 40 refs. Background: Pharmacogenetics is a scientific discipline that examines the genetic basis for individual variations in response to therapeutics. Pharmacogenetics promises to develop individualized medicines tailored to patients' genotypes. However, identifying and genotyping a vast no. of genetic polymorphisms in large populations also pose a great challenge. Approach: This article reviews the recent technol. development in mutation detection and genotyping with a focus on genotyping of single nucleotide polymorphisms (SNPs). Content: Novel mutations/polymorphisms are commonly identified by conformation-based mutation screening and direct high-throughput heterozygote sequencing. With a large amt. of public sequence information available, in silico SNP mapping has also emerged as a cost-efficient way for new polymorphism identification. Gel electrophoresis-based genotyping methods for known polymorphisms include PCR coupled with restriction fragment length polymorphism anal., multiplex PCR, oligonucleotide ligation assay, and minisequencing. Fluorescent dye-based genotyping technologies are emerging as high-throughput genotyping platforms, including oligonucleotide ligation assay, pyrosequencing, single-base extension with fluorescence detection, homogeneous soln. hybridization such as TaqMan, and mol. beacon genotyping. ***Rolling*** ***circle*** ***amplification*** and Invader assays are able to genotype directly from genomic DNA without PCR amplification. DNA chip-based microarray and mass spectrometry genotyping technologies are the latest development in the genotyping arena. Summary: Large-scale genotyping is crucial to the identification of the genetic make-ups that underlie the onset of diseases and individual variations in drug responses. Enabling technologies to identify genetic polymorphisms rapidly, accurately, and cost effectively will dramatically impact future drug and development processes.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 71 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:64197 CAPLUS
DN 134:126767
TI Amplification of nucleic acids with electronic detection
PA Clinical Micro Sensors, Inc., USA
SO PCT Int. Appl., 198 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 5 PATENT NO. KIND DATE APPLICATION NO. DATE ---------- ---- -------- ---------- --------
PI WO 2001006016 A2 20010125 WO 2000-US19889 20000720 WO 2001006016 C2 20020711 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG CA 2379693 AA 20010125 CA 2000-2379693 20000720 EP 1194593 A2 20020410 EP 2000-950511 20000720 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO JP 2003530822 T2 20031021 JP 2001-511224 20000720
PRAI US 1999-144698P P 19990720 WO 2000-US19889 W 20000720
AB The invention relates to compns. and methods useful in the detection of nucleic acids using a variety of amplification techniques, including both signal amplification and target amplification. Detection proceeds through the use of an electron transfer moiety (ETM) that is assocd. with the nucleic acid, either

directly or indirectly, to allow electronic detection of the ETM using an electrode. The methods comprise hybridizing at least a first primer nucleic acid to the target sequence to form a first hybridization complex, and contacting this complex with a first enzyme to form a modified primer, and then the complex is dissocd. These steps may be repeated a plurality of times. A first assay complex is then formed comprising at least one ETM and the modified first primer nucleic acid. The assay complex is covalently attached to an electrode. Electrode transfer is then detected between the ETM and the electrode as an indication of the presence of the target sequence. The method can include the same method on a second target sequence substantially complementary to the first target sequence. The ETM moieties may be attached to the base, a ribose, a phosphate, or to analogous structures in a nucleic acid analog; syntheses are provided for a no. of ferrocene derivs. with nucleotide monomers.

L5 ANSWER 72 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:881363 CAPLUS
DN 134:39156
TI Fluorescence energy transfer probes with stabilized conformations
IN Cook, Ronald M.
PA Biosearch Technologies, Inc., USA
SO PCT Int. Appl., 71 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2000075378 A1 20001214 WO 2000-US16148 20000608
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI US 1999-138376P P 19990609
AB The present invention provides a class of Conformationally Assisted Probes (CAPs) comprising (a) a nucleic acid moiety; (b) an energy donor moiety; (c) an energy acceptor moiety; and (d) one or more stabilizing moieties. Stabilizing groups are: satd./unsatd. hydrocarbons, steroids, fatty acids, fatty alcs. etc., e.g. cholesterol, polyethylene glycol. Typical fluorophores are: fluorescein and TAMRA. The CAP probes are useful as detection agents in a variety of DNA amplification/quantification strategies, including 5'-nuclease assay (PCR-Taqman), Strand Displacement Amplification (SDA) and Nucleic Acid Sequence-Based Amplification (NASBA), ***Rolling*** ***Circle*** ***Amplification*** (RCA), as well as for direct detection of targets in soln. phase or solid phase (e.g. array) assays.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 73 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:878973 CAPLUS
DN 134:146006
TI Detection of multiple allergen-specific IgEs on microarrays by immunoassay with ***rolling*** ***circle*** ***amplification***
AU Wiltshire, Steve; O'Malley, Shawn; Lambert, Jeremy; Kukanskis, Kari; Edgar, David; Kingsmore, Stephen F.; Schweitzer, Barry
CS Molecular Staging Inc., Guilford, CT, 06437, USA
SO Clinical Chemistry (Washington, D. C.) (2000), 46(12), 1990-1993 CODEN: CLCHAU; ISSN: 0009-9147
PB American Association for Clinical Chemistry
DT Journal
LA English
AB First described in 1967, the radio allergosorbent test (RAST) has been the std. technique for measuring allergen-specific IgE antibodies in serum. An updated version of the RAST test, termed CAP (Pharmacia), has been introduced. In clin. practice, CAP results must be interpreted with care. The diagnostic performance of CAP varies in an allergen-specific manner, and CAP scores do not always correlate with clin. severity. CAP sensitivity, specificity, and pos. predictive values agree well with skin prick tests (SPT5) for house dust mites and grasses, but poorly with tests for cat dander and peanuts. Microarray technol. potentially offers advantages in diagnostic applications such as allergy testing because the amt. of reagent required, and thus the cost per assay, is greatly reduced. This approach has been difficult to reduce to practice, however, because the extremely small vols. (0.5-5 nL) of sample used to create spots on these microarrays require extremely sensitive methods of analyte detection. Here, the authors describe the prodn. of microarrays of multiple allergens and demonstrate the utility of these microarrays in combination with immunoRCA to simultaneously detect allergen-specific IgEs for multiple allergens in patient samples.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 74 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:633237 CAPLUS
DN 133:308771
TI Immunoassays with rolling circle DNA amplification: a versatile platform for ultrasensitive antigen detection
AU Schweitzer, Barry; Wiltshire, Steven; Lambert, Jeremy; O'Malley, Shawn; Kukanskis, Kari; Zhu, Zhengrong; Kingsmore, Stephen F.; Lizardi, Paul M.; Ward, David C.
CS Molecular Staging Incorporated, Guilford, CT, 06437, USA
SO Proceedings of the National Academy of Sciences of the United States of America (2000), 97(18), 10113-10119 CODEN: PNASA6; ISSN: 0027-8424
PB National Academy of Sciences
DT Journal
LA English
AB We describe an adaptation of the ***rolling*** ***circle*** ***amplification*** (RCA) reporter system for the detection of protein Ags, termed "immunoRCA.". In immunoRCA, an oligonucleotide primer is covalently attached to an Ab; thus, in the presence of circular DNA, DNA polymerase, and nucleotides, amplification results in a long DNA mol. contg. hundreds of copies of the circular DNA sequence that remain attached to the Ab and that can be detected in a variety of ways. Using immunoRCA, analytes were detected at sensitivities exceeding those of conventional enzyme immunoassays in ELISA and microparticle formats. The signal amplification afforded by immunoRCA also enabled immunoassays to be carried out in microspot and microarray formats with exquisite sensitivity. When Ags are present at concns. down to fM levels, specifically bound Abs can be scored by counting discrete fluorescent signals arising from individual Ag-Ab complexes. Multiplex immunoRCA also was demonstrated by accurately quantifying Ags mixed in

different ratios in a two-color, single-mol.-counting assay on a glass slide. ImmunoRCA thus combines high sensitivity and a very wide dynamic range with an unprecedented capability for single mol. detection. This Ag-detection method is of general applicability and is extendable to multiplexed immunoassays that employ a battery of different Abs, each labeled with a unique oligonucleotide primer, that can be discriminated by a color-coded visualization system. ImmunoRCA-profiling based on the simultaneous quantitation of multiple Ags should expand the power of immunoassays by exploiting the increased information content of ratio-based expression anal.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 75 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:596003 CAPLUS
DN 134:247631
TI Single nucleotide polymorphism (SNP) typing by ***rolling*** - ***circle*** ***amplification*** (RCA)
AU Tanaka, Toshihiro
CS Institute of Medical Science, University of Tokyo, Japan
SO Posutoshikuensu no Genomu Kagaku (2000), Volume 1, 118-127. Editor(s): Nakamura, Yusuke. Publisher: Nakayama Shoten, Tokyo, Japan. CODEN: 69AWVM
DT Conference; General Review
LA Japanese
AB A review with 2 refs. on the principles of the rolling circle amplication (RCA) method for DNA amplification, and applications of the RCA method for genotyping of single nucleotide polymorphism in DNA.

L5 ANSWER 76 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:492037 CAPLUS
DN 133:115875
TI Nucleic acid amplification oligonucleotides with molecular energy transfer labels and methods based thereon
IN Nazarenko, Irina A.; Bhatnagar, Satish K.; Winn-Deen, Emily S.; Hohman, Robert J.
PA Intergen Company, USA
SO U.S., 98 pp., Cont.-in-part of U.S. Ser. No. 837,034. CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 6090552 A 20000718 US 1997-891516
19970711
US 5866336 A 19990202 US 1997-778487
19970103
US 6117635 A 20000912 US 1997-837034
19970411
PRAI US 1996-683667 B2 19960716
US 1997-778487 A2 19970103
US 1997-837034 A2 19970411
AB The present invention provides labeled nucleic acid amplification oligonucleotides, which can be linear or hairpin primers or blocking oligonucleotides. The oligonucleotides of the invention are labeled with donor and/or acceptor moieties of mol. energy transfer pairs. The moieties can be fluorophores, such that fluorescent energy emitted by the donor is absorbed by the acceptor. The acceptor may be a fluorophore that fluoreses at a wavelength different from the donor moiety, or it may be a quencher. The oligonucleotides of the invention are configured so that a donor moiety and an acceptor moiety are incorporated into the amplification product. The invention also provides methods and kits for directly detecting amplification products employing the nucleic acid amplification primers. When labeled linear primers are used, treatment with exonuclease or by using specific temp. eliminates the need for sepn. of unincorporated primers. This "closed-tube" format greatly reduces the possibility of carryover contamination with amplification products, provides for high throughput of samples, and may be totally automated.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 77 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:386520 CAPLUS
DN 133:13177
TI Color visualization of the positions of DNA and genes
AU Ohmido, Nobuko
CS Hokuriku Natl. Agric. Exp. Stn., Japan
SO Kagaku to Seibutsu (2000), 38(6), 380-386 CODEN: KASEAA; ISSN: 0453-073X
PB Gakkai Shuppan Senta
DT Journal; General Review
LA Japanese
AB A review with 5 refs., on visualization of genes/DNA on the genome by fluorescence in situ hybridization (FISH). FISH for visualization of genes on chromatin fiber or DNA fiber, anal. of genome behavior by GISH (genomic in situ hybridization) and CGH (comparative genomic hybridization) detection of point mutations by ***rolling*** ***circle*** ***amplification*** (RCA) method.

L5 ANSWER 78 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:133875 CAPLUS
DN 132:190470
TI Rolling circle-based analysis of polynucleotide sequence
IN Woodward, Karen L.; Nallur, Girish N.; Taylor, Seth
PA Packard Bioscience Company, USA
SO PCT Int. Appl., 126 pp. CODEN: PIXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2000009738 A1 20000224 WO 1999-US18808
19990817
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
AU 9955706 A1 20000306 AU 1999-55706
19990817
PRAI US 1998-96830P P 19980817
US 1998-102535P P 19980930
US 1998-106885P P 19981103
US 1998-106910P P 19981103
WO 1999-US18808 W 19990817
AB Disclosed are methods of detecting a polynucleotide sequence in a sample by a synergistic multiplexed amplification system designated ***rolling*** ***circle*** ***amplification*** (RCA). Multiple individual chem. and biochem. reactions for target identification, amplification, cleavage to unit lengths, and partitioning and detection of each signal independently of other similar signals in the multiplexed reaction can be caused to occur simultaneously in a single tube or device as part of an isothermal process. One such method of analyzing a polynucleotide (e.g., detecting a genetic event such

as a mutation or single nucleotide polymorphism) comprises: (1) providing a sample contg. the polynucleotide sequence to be analyzed: (2) annealing an effective amt. of sample sequence to a single-stranded circular template comprising at least one copy of a sequence complementary to that of the sample sequence; (3) combining the circular template with an effect amt. of a thermophilic ***rolling** ***circle*** ***amplification*** (TRCA) primer, polymerase, and nucleotide triphosphates to yield a single-stranded oligonucleotide multimer complementary tot he circular template; (4) cleaving the product to produce cleaved amplified product, wherein the oligonucleotide multimer is more sensitive to cleavage than is the circular template, thereby analyzing a polynucleotide. Vectors are designed and constructed for TRCA and/or TRACE (thermophilic rolling circle after cleavage with endonuclease) procedures.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 79 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:68601 CAPLUS
DN 132:118328
TI Method for detecting and quantifying nucleic acids using target-mediated ligation and amplification of bipartite primers
IN Lizardi, Paul M.; Huang, Xiaohua
PA Yale University, USA
SO PCT Int. Appl., 101 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2000004193 A1 20000127 WO 1999-US16373 19990720
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE EP 1098996 A1 20010516 EP 1999-935725 19990720
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI US 6316229 B1 20011113 US 1999-357487 19990720
PRAI US 1998-93479P P 19980720 WO 1999-US16373 W 19990720
OS MARPAT 132:118328
AB A sensitive multiplex method capable of detecting single nucleic acid mols. using ***rolling*** ***circle*** ***amplification*** (RCA) of single-stranded circular templates, referred to as amplification target circles, primed by immobilized primers is described. The method overcomes problems of quantification of nucleic acids found in prior art methods. In one form of the method, referred to as a bipartite primer ***rolling*** ***circle*** ***amplification*** , (BP-RCA), RCA of the amplification target circle (ATC) depends on the formation of a primer by target-mediated ligation. In the presence of a nucleic acid mol. having the target sequence, a probe and a combination probe/primer oligonucleotide can hybridize to adjacent sites on the target sequence allowing the probes to be ligated together. By attaching the first probe to a substrate such as a bead or glass slide, unligated probe/primer can be removed after ligation. The only primers remaining will be primers ligated, via the probe portion of the probe/primer, to the first probe. The ligated primer can then be used to prime replication of its cognate ATC. In this way, an ATC will only be replicated if the target sequence (to which its cognate probe/primer is complementary) is present. BP-RCA is useful, for example, for detg. which target sequences are present in a nucleic acid sample, or for detg. which samples contain a target sequence. A no. of variants of the method are also described.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 80 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:57221 CAPLUS
DN 133:115612
TI Amplification of padlock probes for DNA diagnostics by cascade ***rolling*** ***circle*** ***amplification*** or the polymerase chain reaction
AU Thomas, David C.; Nardone, Glenn A.; Randall, Sandra K.
CS Oncor, Inc, Gaithersburg, MD, 20877, USA
SO Archives of Pathology & Laboratory Medicine (1999), 123(12), 1170-1176 CODEN: APLMAS; ISSN: 0003-9985
PB College of American Pathologists
DT Journal
LA English
AB Padlock probes are highly specific reagents for DNA diagnostics that can discriminate gene sequences with single base mutations. When the 3' and 5' terminal regions of the oligonucleotide probes are juxtaposed on a target DNA sequence, they can be circularized by enzymic ligation and become topol. locked to the target. However, to be useful in soln.-based diagnostics, the sensitivity of padlock probes must be markedly enhanced. This paper describes two methods for geometric amplification of circularized padlock probes. Cascade ***rolling*** ***circle*** ***amplification*** is an isothermal system that uses generic primers and a DNA polymerase with strong strand displacement activity to amplify circularized probes by a mechanism combining rolling circle replication and strand displacement synthesis. One of the primers was designed as an energy transfer-labeled primer, which generates a fluorescence signal only when incorporated into the amplified product, enabling a direct means of detection. Using pUC19 as a model target to circularize an 89-base probe, a 10 billion-fold amplification was achieved with Bst DNA polymerase (large fragment) within 1 h starting with as few as 10 probe mols. The polymerase chain reaction was also used to amplify ligated padlock probes in a rare target detection system. In mixing expts. contg. both normal and mutant p53 or c-Ki-ras2 gene target sequences, mutant targets were easily detected in the presence of a 500-fold excess of normal target copies. These results indicate that padlock probes can be amplified to the high levels required for soln.-based DNA diagnostics.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 81 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:816973 CAPLUS
DN 132:45803
TI Multiparametric fluorescence in situ hybridization for identification of human chromosomes and microbial nucleic acids
IN Ward, David C.; Speicher, Michael; Ballard, Stephen Gwyn; Wilson, John T.
PA Yale University, USA
SO U.S., 43 pp., Cont.-in-part of U.S. Ser. No. 88,087, abandoned. CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5 PATENT NO. KIND DATE APPLICATION NO. DATE

PI US 6007994 A 19991228 US 1998-88845
19980602 US 5759781 A 19980602 US 1996-640657
19960501 CA 2329253 AA 19991209 CA 1999-
2329253 19990602 WO 9962926 A1 19991209
WO 1999-US12107 19990602 W: AU, CA, JP RW: AT,
BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE AU 9943247 A1 19991220 AU 1999-43247
19990602 AU 758466 B2 20030320 EP 1091973
A1 20010418 EP 1999-955289 19990602 R: AT, BE,
CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE,
FI JP 2002517183 T2 20020618 JP 2000-552136
19990602 US 6506563 B1 20030114 US 1999-468823
19991222 US 2003027159 A1 20030206 US 2001-
988584 20011120 US 6548259 B2 20030415 US
2003235840 A1 20031225 US 2003-350042
20030124
PRAI US 1995-577622 B2 19951222 US 1995-580717
B2 19951229 US 1996-640657 A2 19960501 US
1998-88087 B2 19980601 US 1998-88845 A
19980602 WO 1999-US12107 W 19990602 US
1999-468823 A3 19991222 US 2001-988584 A1
20011120
AB Methods and reagents for combinatorial labeling of oligonucleotide probes for visualization and simultaneous identification of all human chromosomes or defined sub-regions, and characterization of bacteria, viruses and/or lower eukaryotes present in samples are presented. The method utilizes two sets of combinatorially labeled oligonucleotide probes, each member thereof (i) having a predetd. label distinguishable from the label of any other member of said set, and (ii) being capable of specifically hybridizing with a predetd. chromosome or nucleic acid mol. Preferably, each probe is labeled with a combination of distinguishable fluorophores as to allow unique identification of all human chromosomes, chromosomal sub-regions, or nucleic acid of preselected bacteria, viruses and/or lower eukaryotes. The method, multiparametric fluorescence in situ hybridization (M-FISH) can be used alone or in concert with nucleic acid amplification methods, either in situ polymerase chain reaction (PCR) or in situ ***rolling*** ***circle*** ***amplification*** .
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 82 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:673101 CAPLUS
DN 131:296194
TI Nucleic acid sequencing using rolling circle-based amplification and arrays of capture probes
IN Taylor, Seth
PA Packard Bioscience Company, USA
SO PCT Int. Appl., 64 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 9953102 A1 19991021 WO 1999-US8407
19990416 W: AU, CA, JP RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE AU 9935670 A1 19991101 AU 1999-35670 19990416 US 2002168645 A1 20021114 US 2001-884425 20010619
PRAI US 1998-82063P P 19980416 US 1998-84085P P 19980507 US 1999-293333 B1 19990416 WO 1999-US8407 W 19990416
AB A method of DNA sequence anal. that uses a combination of isothermal amplification by a rolling circle method and hybridization of amplification products to ordered arrays of capture probes is described. The method can be used for sequencing and for detection of polymorphisms, esp. single nucleotide polymorphisms. The method uses a primer that hybridizes on the 5'- and 3'-sides of a target sequence to form a gapped circle. The hybridization product is then amplified from a ***rolling*** ***circle*** ***amplification*** primer site and the amplification products are cleaved with a restriction enzyme to release the sequence of the target DNA that has been incorporated into the amplification products. The restriction enzyme is preferably a type IIS that has a cleavage site near the gap that is filled in during amplification.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 83 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:449722 CAPLUS
DN 132:88796
TI Molecular DNA switches and DNA chips
AU Sabanayagam, Chandran R.; Berkey, Cristin; Lavi, Uri; Cantor, Charles R.; Smith, Cassandra L.
CS Advanced Biotechnology Ctr., Dep. Eng., Boston Univ., Boston, MA, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3606(Micro- and Nanofabricated Structures and Devices for Biomedical Environmental Applications II), 90-97 CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB We present an assay to detect single-nucleotide polymorphisms on a chip using mol. DNA switches and isothermal ***rolling*** - ***circle*** ***amplification*** . The basic principle behind the switch is an allele-specific oligonucleotide circularization, mediated by DNA ligase. A DNA switch is closed when perfect hybridization between the probe oligonucleotide and target DNA allows ligase to covalently circularize the probe. Mismatches around the ligation site prevent probe circularization, resulting in an open switch. DNA polymerase is then used to preferentially amplify the closed switches, via ***rolling*** - ***circle*** ***amplification*** . The stringency of the mol. switches yields 102-103-fold discrimination between matched and mismatched sequences.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 84 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:206205 CAPLUS
DN 131:68712
TI ***Rolling*** ***circle*** ***amplification*** of DNA immobilized on solid surfaces and its application to multiplex mutation detection
AU Hatch, Anson; Sano, Takeshi; Misasi, John; Smith, Cassandra L.
CS Center for Advanced Biotechnology and Departments of Biomedical Engineering and Biology, Boston University, Boston, MA, 02215, USA
SO Genetic Analysis: Biomolecular Engineering (1999), 15(2), 35-40 CODEN: GEANF4; ISSN: 1050-3862
PB Elsevier Science B.V.
DT Journal

LA English
AB A new method of amplifying short DNA mols. immobilized on a solid support has been developed. This method uses a solid-phase rolling circle replication reaction, termed ***rolling*** ***circle*** ***amplification*** (RCA). The probe consists of a single-stranded DNA primer anchored at the 5' terminus to a solid support and a single stranded DNA template hybridized to the immobilized primer. Here, DNA ligase was used to circularize the template, and DNA polymerase I was used to extend the immobilized primer in a rolling circle replication reaction. This method was used to identify a known polymorphism in BRCA1 exon 5. These results demonstrate that RCA offers considerable promise to facilitate effective mutation screening of DNA using a solid-phase format.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 85 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:124034 CAPLUS
DN 130:321259
TI Accessing genomic information: alternatives to PCR
AU Isaksson, Anders; Landegren, Ulf
CS The Beijer Laboratory, Department of Genetics and Pathology, Uppsala Biomedical Center, Uppsala, SE-751 23, Swed.
SO Current Opinion in Biotechnology (1999), 10(1), 11-15
CODEN: CUOBE3; ISSN: 0958-1669
PB Current Biology Publications
DT Journal; General Review
LA English
AB A review and discussion with 33 refs. The growing abundance of genomic sequence data invites increasingly large-scale genetic analyses. Studies of genetic variation in large sets of genes can illuminate important disease mechanisms and serve to identify novel drug targets or predict therapeutic responses. At present mostly a concern in extensive research projects, large-scale genetic analyses will gradually also find their way into clin. practice as an aid to the physician. It is timely, therefore, to take stock of methods that are becoming available for analyses of large sets of gene sequences. Clearly PCR remains the workhorse for mol. genetic anal., and several modifications such as homogeneous amplification assays and parallel detection on DNA microarrays further increase throughput. Recent developments, however, also offer hope that other methods will become available for genomic investigations, providing substantially increased anal. capacity.
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 86 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:799074 CAPLUS
DN 130:149228
TI Signal amplification of padlock probes by rolling circle replication
AU Baner, Johan; Nilsson, Mats; Mendel-Hartvig, Maritha; Landegren, Ulf
CS The Beijer Laboratory, Department of Genetics and Pathology, Uppsala University, Uppsala, SE-751 23, Swed.
SO Nucleic Acids Research (1998), 26(22), 5073-5078 CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English
AB Circularizing oligonucleotide probes (padlock probes) have the potential to detect sets of gene sequences with high specificity and excellent selectivity for sequence variants, but sensitivity of detection has been limiting. By using a rolling circle replication (RCR) mechanism, circularized but not unreacted probes can yield a powerful signal amplification. We demonstrate here that in order for the reaction to proceed efficiently, the probes must be released from the topol. link that forms with target mols. upon hybridization and ligation. If the target strand has a nearby free 3' end, then the probe-target hybrids can be displaced by the polymerase used for replication. The displaced probe can then slip off the target strand and a ***rolling*** ***circle*** ***amplification*** is initiated. Alternatively, the target sequence itself can prime an RCR after its non-base paired 3' end has been removed by exonucleolytic activity. We found the .PHI.29 DNA polymerase to be superior to the Klenow fragment in displacing the target DNA strand, and it maintained the polymn. reaction for at least 12 h, yielding an extension product that represents several thousand-fold the length of the padlock probe.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 87 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:560416 CAPLUS
DN 129:271171
TI Mutation detection and single-molecule counting using isothermal ***rolling*** - ***circle*** ***amplification***
AU Lizardi, Paul M.; Huang, Xiaohua; Zhu, Zhengrong; Bray-Ward, Patricia; Thomas, David C.; Ward, David C.
CS Department of Pathology, Yale University School of Medicine, New Haven, CT, 06520, USA
SO Nature Genetics (1998), 19(3), 225-232 CODEN: NGENEC; ISSN: 1061-4036
PB Nature America
DT Journal
LA English
AB ***Rolling*** - ***circle*** ***amplification*** (RCA) driven by DNA polymerase can replicate circularized oligonucleotide probes with either linear or geometric kinetics under isothermal conditions. In the presence of two primers, one hybridizing to the + strand, and the other, to the - strand of DNA, a complex pattern of DNA strand displacement ensues that generates 109 or more copies of each circle in 90 min, enabling detection of point mutations in human genomic DNA. Using a single primer, RCA generates hundreds of tandemly linked copies of a covalently closed circle in a few minutes. If matrix-assocd., the DNA product remains bound at the site of synthesis, where it may be tagged, condensed and imaged as a point light source. Linear oligonucleotide probes bound covalently on a glass surface can generate RCA signals, the color of which indicates the allele status of the target, depending on the outcome of specific, target-directed ligation events. As RCA permits millions of individual probe mols. to be counted and sorted using color codes, it is particularly amenable for the anal. of rare somatic mutations. RCA also shows promise for the detection of padlock probes bound to single-copy genes in cytol. preps.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 88 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:510304 CAPLUS
DN 113:110304

TI Evidence for rolling-circle replication in a major satellite DNA from the South American rodents of the genus Ctenomys
AU Rossi, Maria Susana; Reig, Osvaldo Alfredo; Zorzopulos, Jorge
CS BioSidus S.A., Buenos Aires, 1254, Argent.
SO Molecular Biology and Evolution (1990), 7(4), 340-50
CODEN: MBEVEO; ISSN: 0737-4038
DT Journal
LA English
AB A major PvuI satellite DNA was cloned from a South American octodontid rodent of the genus Ctenomys (C. porteousi). The satellite monomer, termed RPCS, is 337 bp long and 42% G+C. Anal. of the nucleotide sequence demonstrates that RPCS is not composed of a series of shorter repeats. RPCS-related sequences were found in 11 of 12 Ctenomys species analyzed by hybridization under high-stringency conditions. The only neg. species, C. opimus, was reactive under low-stringency conditions.. RPCS-related sequences were not found under high- or low-stringency conditions in Calomys musculinus and Mus musculus. However, under low-stringency conditions, RPCS-related sequences were found in the octodontid Octodontomys gliroides, which is thought to have diverged from the genus Ctenomys >10 Myr ago. The pattern of periodicities obsd., by restriction anal., between Ctenomys species in the satellite array can be mainly accounted for by a ***rolling*** - ***circle*** ***amplification*** mechanism but cannot be solely accounted for by unequal crossing-over.

L5 ANSWER 89 OF 89 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:49614 CAPLUS
DN 112:49614
TI Herpes simplex virus-induced * ***rolling*** ***circle*** * ***amplification*** of SV40 DNA sequences in a transformed hamster cell line correlates with tandem integration of the SV40 genome
AU Gerspach, Ralph; Matz, Bertfried
CS Abt. Virol., Inst. Med. Mikrobiol. Hyg., Freiburg, D-7800, Fed. Rep. Ger.
SO Virology (1989), 173(2), 723-7 CODEN: VIRLAX; ISSN: 0042-6822
DT Journal
LA English
AB Infection with herpes simplex virus leads to amplification of SV40 DNA in various SV40-transformed cells. In earlier studies with the SV40-transformed hamster cell line Elona 2 different types of DNA amplification could be identified: (1) bidirectional overreplication of chromosomally integrated SV40 DNA expanding into the flanking cellular sequences (onion skin type) and (2) highly efficient synthesis of extremely large head-to-tail concatemers contg. exclusively SV40 DNA (rolling circle type). These investigations have indicated that the chromosomally integrated form of SV40 might be the substrate for both types of overreplicaton. There still had been uncertainties as to whether and how these events were connected. A hypothetical assumption of a recombinational event leading to the excision of SV40 DNA mols. is supported by the results presented here: cloned Elona cell lines were investigated for their ability to amplify SV40 sequences and for the mechanism of amplification utilized. SV40 integration in a partial tandem manner correlates with a strong rolling amplification. In contrast, in one cell line harboring a truncated SV40 genome, amplification appears mainly restricted to intrachromosomal bidirectional overreplication. Possible implications for HSV functions involved in the amplification process are discussed.

=> d l8 1-10 bib ab

L8 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:181846 CAPLUS
TI The computer-aided design of receptors for tetravalent actinides
AU Uddin, Jamal; Hay, Benjamin P.
CS Molecular Interactions and Transformatons Group, Pacific Northwest National Laboratory, Richland, WA, 99352, USA
SO Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), COMP-159 Publisher: American Chemical Society, Washington, D. C. CODEN: 69DSA4
DT Conference; Meeting Abstract
LA English
AB ***Sequestering*** ***agents** with enhanced recognition for actinide ions are crit. for the minimization and remediation of nuclear waste ***problems*** . This talk highlights research accomplished under the US DOE Environmental Science Management Program (EMSP 73759 and 82773) toward the computer-aided design of improved host architectures for actinide complexation. We have designed catecholate-based host architectures for targeted actinides using a de novo structure-based design software developed in our lab. This software, HostDesigner, has been used to identify optimal linkages that connect two, three, or four catecholate groups to provide complementary arrays of binding sites for tetravalent actinide metal ions. Mol. mechanics analyses have been used to quant. evaluate candidate architectures and score them with respect to their degree of binding site organization.

L8 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:755381 CAPLUS
DN 130:177484
TI Fix-A-Tox in aquaculture. II Monitoring the preventive effect of Fix-A- Tox against aflatoxicosis in cultured Oreochromis niloticus
AU Essa, Manal A. A.; Soliman, Kawther M.; El-Miniawi, Hala M. F.
CS Dept. of Poultry and Fish, Fac. Vet. Med., Kafr El-Sheikh, Tanta University, Tanta, Egypt
SO Veterinary Medical Journal Giza (1998), 46(3), 267-284
CODEN: VMJGEA; ISSN: 1110-1423
PB Cairo University, Faculty of Veterinary Medicine
DT Journal
LA English
AB The effect of the recently used ***sequestering*** ***agent*** "Fix-A-Tox" was monitored in preventing aflatoxicosis ***problem** among cultured Oreochromis niloticus (O.niloticus) in Egypt. The supplementation of different levels of Fix-A-Tox to fish fed on control and crude aflatoxins contaminated diets for 6 mo indicated a noticeable changes in the body wt. development, mortalities and serum biochem. constituents. The histopathol. examinatin revealed some alterations particularly in liver of fish received Fix-A-Tox either alone or in combination with crude aflatoxins. Moreover, the residual anal. in the fish liver revealed a non-efficient effect of Fix-A-Tox in preventing aflatoxicosis among cultured O.niloticus. RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:319052 CAPLUS
DN 129:42323
TI Photoactive ion exchange resins

AU Ibrahim, Mohamed A.; Nimlos, Mark; Filley, Jonathan; Blake, Daniel; Watt, Andrew; Wolfrum, Edward; Muralidharan, S.
CS National Renewable Energy Laboratory (NREL), Golden, CO, 80401, USA
SO International Environmental Conference & Exhibit, Vancouver, B. C., Apr. 5-8, 1998 (1998), Volume Bk. 1, 215-216 Publisher: TAPPI Press, Atlanta, Ga. CODEN: 66BYAP
DT Conference
LA English
AB As the forest product industry move towards closed cycle pulping processes, the ability to remove non-process elements from water streams becomes more crit. Dissolved species such as calcium, magnesium and transition metals such as manganese, iron and anions such as oxalates can build up in process waters and lead to scale formation and catalytic decompn. of bleaching agents. Ion exchange and pptn. using ***sequestering*** ***agents*** are currently used as technologies to help with this ***problem*** . We are developing a new class of photoactive ion exchange resins that can be regenerated with less energy and solvents than conventional resins and will be effective for recycling, water redn. and pollution prevention. As a proof of concept, we have synthesized several photoactive dyes based on spiropyran and tested for its metal binding ability. These dyes have also been anchored onto solid support and its metal and anion binding ability were studied. Initial results were encouraging and could lead to product development in future.

L8 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:557787 CAPLUS
DN 122:322080
TI Superchlorination and corrosivity in a municipal water supply
AU Meyer, K.A.; Bailey, J.W.; Rottiers, D.V.
CS Department of Biology, Mansfield University, Mansfield, PA, 16933, USA
SO Journal of the Pennsylvania Academy of Science (1994), 68(3), 136-40 CODEN: JPSCEY; ISSN: 1044-6753
DT Journal
LA English
AB The corrosivity of a municipal water supply was evaluated because superchlorination for Giardia cyst control created severe aesthetic problems in tapwater and also because of the potential public health impact. Adjustment of pH with lime and soda ash and the use of a ***sequestering*** ***agent*** , an inhibitor, decreased the corrosivity ***problem*** as indicated by both Langelier Satn. Index detns. and trace metal evaluations. Major upgrades in the treatment system involving the installation of a slow-sand filter and a large covered storage tank, as well as the replacement of about one half the town water mains were done to bring the borough into compliance with current drinking water regulations and also improve water quality in terms of appearance and palatability. The latter was done by eliminating the corrosivity problem and by substantially reducing Cl usage.

L8 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:230502 CAPLUS
DN 114:230502
TI New developments in the field of [textile processing] formulations
AU Bassing, D.
CS BASF A.-G., Germany
SO Revista de Quimica Textil (1990), 100, 29-30, 32-3, 36, 39-40 CODEN: RQTED3; ISSN: 0300-3418
DT Journal; General Review
LA Spanish
AB A review without refs. on requirements for textile processing agents and formulations, from the point of view of agent efficiency and compatibility with the environment. Biodegradability of moisturizers, detergents, dispersing agents, ***sequestering*** ***agents*** , peroxide stabilizers, etc.; requirements for surface-active agents and detergents; advantages and ***problems*** of ethoxylated alkyl phenol-based formulations; and environmental issues are discussed.

L8 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:586808 CAPLUS
DN 99:186808
TI Influence of clofibrate, bile- ***sequestering*** ***agents*** and ***probucol*** on high-density lipoprotein levels
AU Glueck, Charles
CS Coll. Med., Univ. Cincinnati, Cincinnati, OH, 45267, USA
SO American Journal of Cardiology (1983), 52(4), 28-30 CODEN: AJCDAG; ISSN: 0002-9149
DT Journal; General Review
LA English
AB A review with 11 refs. of the action of the hypolipemic drugs clofibrate (I) [637-07-0], ***probucol*** [23288-49-5], and bile- ***sequestering*** ***agents*** on high-d. lipoprotein metab. in humans.

L8 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1958:74703 CAPLUS
DN 52:74703
OREF 52:13260e-f
TI Sodium aluminate as a water-treating chemical
AU Bown, C. D.; Rowse, D. J.
SO Can. Pulp and Paper (1958), 11(No. f1), 41-2,44,46-7
DT Journal
LA Unavailable
AB By using dry Na aluminate (I) or, water treatment, large savings were effected; the water could be used in the mill without addn. of a ***sequestering*** ***agent*** and could also be used as boiler feed without introducing a scaling ***problem*** . I was preferred to alum. "Liquid" I (contg. 45-50% NaAlO2) proved rather poor for water treatment at pH 6-6.5, and required carefully controlled conditions for effective use.

L8 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1957:10643 CAPLUS
DN 51:10643
OREF 51:2244f
TI Detergent corrosion test for vitreous enamel surfaces
AU Harris, J. C.; Kramer, M. G.; Trexler, M. V.
CS Monsanto Chem. Co., Dayton, O.
SO ASTM Bull. (1956), No. 216, 61-4
DT Journal
LA Unavailable
AB ***Sequestering*** ***agents*** and alk. builders in synthetic detergents can result in vitreous enamel failure, ***probably*** because of the removal of metallic ions by sequestration. A standard method of test is proposed.

L8 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1956:41994 CAPLUS
DN 50:41994
OREF 50:8098h-i
TI Sequestering agents. Ib
AU Smith, R. L.; Womersley, P.
CS Norman Evans & Rais Ltd., Manchester, UK

SO Chemical Products and Chemical News (1956), 19, 152-4
CODEN: CPCNA8; ISSN: 0366-7790
DT Journal
LA Unavailable
AB The use of these agents is divided into 5 general headings, viz., (1) dissolving of existing ppts., (2) prevention of formation of ppts., (3) suppression of the ionic form of metallic ions which must otherwise remain in soln., (4) the use of the actual chelate as such in contradistinction to metallic or ionic forms, (5) the influence of ***sequestering*** ***agents*** on ***problems*** of crystn. Examples of industrial uses are considered under these headings.

L8 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1951:63047 CAPLUS
DN 45:63047
OREF 45:10653a
TI Vulcanized latex
AU Sutton, S. D.
SO Transactions, Institution of the Rubber Industry (1951), 27, 193-206 CODEN: TIRIA2; ISSN: 0371-7968
DT Journal
LA Unavailable
AB The paper comprises a history of vulcanized latex, a description of early developments in technique in contrast to modern methods of bulk vulcanization, phys. testing, the ***problem*** of structure, viscosity, aging, ***sequestering*** ***agents*** , and present applications.

=> d l13 1-15 bib ab

L13 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:472337 CAPLUS
DN 143:20891
TI Methods for destabilization of DNA using uracil DNA glycosylase for subsequent ***hybridization*** to probes immobilized on arrays
IN ***Crothers, Donald M.***
PA Geneohm Sciences, Inc., USA
SO PCT Int. Appl., 60 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2005049848 A2 20050602 WO 2004-US37472 20041110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2003-518816P P 20031110
AB The present disclosure relates to the detection of nucleic acids from pathogens using on-chip rolling circle amplification and electrochem. methods measuring DNA ***hybridization*** to electrode surfaces. Electrochem. detection involves catalytic detection, such as with a horseradish peroxidase, and using probe conjugates with redox catalysts bound to electrode surfaces. Rolling circle amplification on microarrays is used to amplify the nucleic acid after ***hybridization*** has occurred. The presence of abasic sites causes destabilization of ***hybridization*** and destabilization further allows the tag sequence to ***hybridize*** to a probe attached to a surface. ***Hybridization*** of DNA to detection probes is preferably detected by electrochem. readout, in particular the use of ruthenium amperometry to detect ***hybridization*** of identifier tags to detection probes immobilized on a universal detector, preferably a universal chip having gold or carbon electrodes.

L13 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:451516 CAPLUS
DN 142:477077
TI Detection of nucleic acids from pathogens using on-chip rolling circle amplification and electrochemical methods measuring DNA ***hybridization*** to electrode surfaces
IN ***Crothers, Donald M.*** ; Holmlin, R. Erik; Zhang, Honghua; Shi, Chunnian
PA Geneohm Sciences, Inc., USA
SO PCT Int. Appl., 64 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2005047474 A2 20050526 WO 2004-US37407 20041110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2003-518816P P 20031110
AB The present disclosure relates to the detection of nucleic acids from pathogens using on-chip rolling circle amplification and electrochem. methods measuring DNA ***hybridization*** to electrode surfaces. Electrochem. detection involves catalytic detection, such as with a horseradish peroxidase, and using probe conjugates with redox catalysts bound to electrode surfaces. Rolling circle amplification on microarrays is used to amplify the nucleic acid after ***hybridization*** has occurred.

L13 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:216893 CAPLUS
DN 142:292456
TI Oligonucleotides to reduce non-specific ***hybridization*** and non-specific ligation of target nucleic acid probes and use with microarrays
IN ***Crothers, Donald M.***
PA Geneohm Sciences, Inc., USA
SO PCT Int. Appl., 204 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2005021717 A2 20050310 WO 2004-US27412 20040823
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,

EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, GM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2003-497821P P 20030825

AB The present application provides methods and compns. for use in detecting the presence of a target nucleic acid in a sample. In some embodiments, the methods employ oligonucleotide sequestering agents which specifically interact with complementary nucleic acids which will be ligated together if the target nucleic acid is present in the sample. Detection of a ligation product comprising the complementary nucleic acids indicates that the target nucleic acid is present in the sample. ***Hybridization*** -based detection methods can be performed without conducting the ***hybridization*** at stringent temps. The examples describe detection of SNPs (single nucleotide polymorphisms) by circle formation or oligomer ligation followed by electrochem. readout. Process options include PCR amplification of genomic DNA or ligation products, RNA synthesis from circular or linear ligation products, or amplification of chip nucleic acids. Specifically, the examples describe detection of human coagulation factor V gene alleles, methylene tetrahydrofolate reductase gene alleles, and a p53 SNP. ***Hybridization*** products bound to carbon ink electrodes were detected using ruthenium hexamine as a redox reporter.

L13 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:99637 CAPLUS
DN 142:192309
TI Invasive cleavage reaction for tagging nucleic acids and subsequent ***hybridization*** of tags with detection probes for electrochemical readout
IN ***Crothers, Donald M.*** ; Bis, Peggy S.
PA Geneohm Sciences, Inc., USA
SO PCT Int. Appl., 93 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2005010199 A2 20050203 WO 2004-US22465 20040714
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, GM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2003-488177P P 20030716 US 2003-532102P P 20031223

AB A universal tag assay is disclosed wherein at least one invasive cleavage reaction (ICR) is used to generate tagged mols. having identifier tags corresponding to target nucleotide sequences, and further wherein ***hybridization*** of any tagged mol. with a complementary detection probe on a universal detector indicates the presence of the corresponding target in the sample being assayed. Preferred embodiments include the use of ICR to generate mols. suitable for use in the universal tag assay to detect variant nucleotide sequences including single nucleotide polymorphisms (SNPs), allelic variants, and splice variants. ***Hybridization*** of tagged mols. to detection probes is preferably detected by electrochem. readout, in particular the use of ruthenium amperometry to detect ***hybridization*** of identifier tags to detection probes immobilized on a universal detector, preferably a universal chip having gold or carbon electrodes. The invention further claims use of the invasive cleavage reaction method for detection of mutations that cause cancer and for detection of mutations present at a levels of about one part in 10,000 or less.

L13 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:372713 CAPLUS
DN 140:333552
TI Method of electrochemical detection of somatic cell mutations associated with cancer using arrays
IN ***Crothers, Donald M.*** ; Holmlin, R. Erik; Shi, Chunnian
PA USA
SO U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U.S. Ser. No. 424,542. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI US 2004086895 A1 20040506 US 2003-429293 20030502
US 2004086892 A1 20040506 US 2003-424542 20030424
WO 2004097755 A2 20041118 WO 2004-US13222 20040430
WO 2004097755 A3 20041223
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, GM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2002-424656P P 20021106 US 2003-424542 A2 20030424 US 2003-429293 A2 20030502

AB The present disclosure relates to the detection of somatic cell mutations, particularly as part of a method to screen for cancer or precancer. The disclosure includes techniques for extg. and isolating oligonucleotides from a patient and conducting ***hybridization*** assays. Preferred embodiments include a combination of the following steps: extg. a biol. sample from a patient, purifying a nucleic acid from a biol. sample, amplifying a nucleic acid, isolating a nucleic acid in single stranded form, cydizing a nucleic acid, elongating a nucleic acid, controlling ***hybridization*** stringency, amplifying a nucleic acid on a chip, and detecting ***hybridization*** .

L13 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:372712 CAPLUS
DN 140:351668

TI Electrochemical method to measure DNA ***hybridization*** to an electrode surface in the presence of molecular oxygen
IN ***Crothers, Donald M.*** ; Holmlin, R. Erik; Zhang, Honghua; Shi, Chunnian
PA USA
SO U.S. Pat. Appl. Publ., 10 pp. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 2004086894 A1 20040506 US 2003-429291 20030502 WO 2004099433 A2 20041118 WO 2004-US13514 20040430 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2002-424656P P 20021106 US 2003-429291 A1 20030502
CS MARPAT 140:351668
AB The present disclosure provides methods and compns. for conducting an assay to detect nucleic acid ***hybridization*** in the presence of oxygen. In particular, ruthenium complexes having a redn. potential that does not coincide with the redn. potential of mol. oxygen are disclosed and amperometric techniques for their use are described. In preferred embodiments, the ruthenium complex is ruthenium(III)pentaammne pyridine and the nucleic acid ***hybridization*** event that is detected is DNA ***hybridization*** . Further, techniques for enhancing detectable contrast between ***hybridized*** and unhybridized nucleic acids are disclosed. In particular, the use of elongated target strands as well as the use of uncharged probe strands are discussed.

L13 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:372711 CAPLUS
DN 140:387027
TI Use of a set of universal tags to label probes for microarray detection of target sequences
IN ***Crothers, Donald M.*** ; Holmlin, R. Erik
PA USA
SO U.S. Pat. Appl. Publ., 35 pp. CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3 PATENT NO. KIND DATE APPLICATION NO. DATE
PI US 2004086892 A1 20040506 US 2003-424542 20030424 US 2004086895 A1 20040506 US 2003-429293 20030502 WO 2004044549 A2 20040527 WO 2003-US35378 20031105 WO 2004044549 A3 20041021 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2002-424656P P 20021106 US 2003-424542 A2 20030424 US 2003-429293 A2 20030502
AB A method of detection of target sequences by microarray ***hybridization*** that uses a common set of probes to detect tag sequences attached to probes is described. agged mols. Probes are designed with a domain to detect a target sequence and a domain that ***hybridizes*** to a defined probe on a microarray. The probe domain may be used in any std. ***hybridization*** assay, including those with an amplification step. After ***hybridization*** and amplification, the ***hybridized*** probes are captured on the microarray. This method allows a common microarray to be used for a no. of different analyses with only the design and synthesis of probes being necessary. Preferred embodiments include use of such a universal tag assay to detect variant sequences including single nucleotide polymorphisms (SNPs), allelic variants, and splice variants. Preferred embodiments further include the use of ruthenium amperometry to detect ***hybridization*** of tagged DNA or RNA mols. to detection probes immobilized on a universal detector, preferably a universal chip having gold or carbon electrodes.

L13 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:162787 CAPLUS
DN 140:176232
TI Methods and probes for amplification of nucleic acids using ligase chain reaction
IN Kawashima, Tadashi Ryan; Holmlin, Erik; ***Crothers, Donald M.***
PA Geneohm Sciences, USA
SO PCT Int. Appl., 86 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
PI WO 2004016755 A2 20040226 WO 2003-US25544 20030814 WO 2004016755 A3 20040826 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2002-424656P P 20021106 US 2003-424542 A2 20030424 US 2003-429293 A2 20030502
AB A method of detection of target sequences by microarray ***hybridization*** that uses a common set of probes to detect tag sequences attached to probes is described. agged mols. Probes are designed with a domain to detect a target sequence and a domain that ***hybridizes*** to a defined probe on a microarray. The probe domain may be used in any std. ***hybridization*** assay, including those with an amplification step. After ***hybridization*** and amplification, the ***hybridized*** probes are captured on the microarray. This method allows a common microarray to be used for a no. of different analyses with only the design and synthesis of probes being necessary. Preferred embodiments include use of such a universal tag assay to detect variant sequences including single nucleotide polymorphisms (SNPs), allelic variants, and splice variants. Preferred embodiments further include the use of ruthenium amperometry to detect ***hybridization*** of tagged DNA or RNA mols. to detection probes immobilized on a universal detector, preferably a universal chip having gold or carbon electrodes.

AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG US 2005118616 A1 20050602 US 2004-914114 20040809
PRAI US 2002-404195P P 20020816 WO 2003-US25544 A2 20030814
AB The present disclosure relates to methods for generating single-stranded DNA mols. of defined sequence and length using ligase chain reaction (LCR). Specifically, a region of template contg. target sequence is amplified by LCR, exogenous sequence is introduced by LCR primers or probes used in amplification, and LCR products may be used in further amplification steps involving rolling circle amplification (RCA) or polymerase chain reaction (PCR). LCR products may include sequence complementary to the backbone of a padlock probe, where the LCR product ***hybridizes*** to a padlock probe and after ligation of the padlock, serves as polymn. primer. After amplification, single-stranded amplification products are trimmed to produce short single-stranded DNA mols. of defined sequence and length. These methods were used to detect single nucleotide polymorphisms in p53 tumor suppressor gene.

L13 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:875401 CAPLUS
DN 139:333987
TI Methods for generating single-stranded DNA
IN ***Crothers, Donald M.*** ; Koenigsberger, Carol
PA Geneohm Sciences, USA
SO PCT Int. Appl., 42 pp. CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI WO 2003091406 A2 20031106 WO 2003-US12824 20030422
WO 2003091406 A3 20040812
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG US 2003207279 A1 20031106 US 2002-138067 20020501 US 6815167 B2 20041109 CA 2483349 AA 20031106 CA 2003-2483349 20030422 EP 1501944 A2 20050202 EP 2003-719931 20030422
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK US 2005026208 A1 20050203 US 2004-932518 20040901
PRAI US 2002-376141P P 20020425 US 2002-138067 A 20020501 WO 2003-US12824 W 20030422
AB The present disclosure relates to methods for generating single-stranded DNA mols. of defined sequence and length. Specifically, a region of template contg. target sequence is amplified by PCR or RCA, exogenous sequence is introduced by primers or probes used in amplification, double-stranded amplification products are converted to single-stranded amplification products, and single-stranded amplification products are trimmed to produce short single-stranded DNA mols. of defined sequence and length.

L13 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1986:494127 CAPLUS
DN 105:94127
TI Large scale production of DNA probes
IN Dattagupta, Nanibhushan; Rae, Peter; ***Crothers, Donald*** ; Barnett, Thomas
PA Molecular Diagnostics, Inc., USA
SO Eur. Pat. Appl., 13 pp. CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI EP 184056 A2 19860611 EP 1985-114561 19851116
EP 184056 A3 19870415
EP 184056 B1 19900131
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE
US 4734363 A 19880329 US 1984-675386 19841127
CA 1264452 A1 19900116 CA 1985-486641 19850711
AT 49977 E 19900215 AT 1985-114561 19851116
JP 61227785 A2 19861009 JP 1985-265160 19851127
PRAI US 1984-675386 A 19841127
EP 1985-114561 A 19851116
AB A method for prepg. nucleic acid sequences on a large scale without continually using doning or plasmid vectors is described. The method involves (a) covalently coupling a DNA strand complementary to the strand to be synthesized to a solid support so that its 3'-end is adjacent to the solid support; (b) ***hybridizing*** an oligonucleotide corresponding to the 5'-end of the desired strand to the complementary polynucleotide; and (c) contacting the ***hybridized*** intermediate with a polymerase and nucleotides so that the oligonucleotide grows at its 3'-end following the polynucleotide as template to produce the desired strand. The structure constituting the polynucleotide base-paired to the extended oligonucleotide is denature so as to release the oligonucleotide into soln. The solid support is sepd. from the soln. and recycled for future use. The method is useful for producing anal. and diagnostic DNA probes.

L13 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:538092 CAPLUS
DN 103:138092
TI Nucleic acid probe, test method and reagent system for detecting a polynucleotide sequence and antibody for this method
IN Dattagupta, Nanibhushan; Rae, Peter M. M.; Knowles, William J.; ***Crothers, Donald M.***
PA Molecular Diagnostics, Inc., USA
SO Eur. Pat. Appl., 41 pp. CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI EP 147665 A1 19850710 EP 1984-114536 19841130
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE
US 4724202 A 19880209 US 1983-560462 19831212
US 4777129 A 19881011 US 1984-662858 19841019
NO 8404745 A 19850613 NO 1984-4745 19841128
ES 538291 A1 19860716 ES 1984-538291 19841205
FI 8404865 A 19850613 FI 1984-4865 19841210
IL 73774 A1 19881130 IL 1984-73774 19841210
DK 8405913 A 19850613 DK 1984-5913 19841211
AU 8436523 A1 19850620 AU 1984-36523 19841211
ZA 8409622 A 19850828 ZA 1984-9622

19841211 JP 60144662 A2 19850731 JP 1984-260990
19841212 CA 1266434 A1 19900306 CA 1984-469904
19841212
PRAI US 1983-560462 A 19831212 US 1984-662858
A 19841019
AB A method and probe are described for the detection of specific polynucleotide sequences in biol. samples with high sensitivity by solid-phase ***hybridization*** assay. The probe consists of a ***hybridizable*** single-stranded portion of nucleic acid connected to a nonhybridizable single- or double-stranded nucleic acid portion which contains a specific binding site for the protein(s) (e.g., repressor proteins, antibodies, lac repressor proteins). The nonhybridizable portion of the probe may be chem. or phys. modified by an intercalating agent, Pt-contg. ligand, or salt to create a protein recognition site. The method involves combining the sample with the probe (either the sample or probe are immobilized on a support), sepg. the solid support carrying ***hybridized*** probe from unhybridized probe, adding to the sepd. solid support carrying the ***hybridized*** probe a protein labeled with an enzyme, fluorescer, luminescer, chromophore, radiolabel, etc., which binds the recognition site on the probe, and detg. the label protein that becomes bound to the support. For example, for the detection the .beta.-globin gene, a plasmid carrying a single-stranded region of the human .beta.-globin gene was coupled covalently to the lac operator DNA, immobilized on a solid support, and ***hybridized*** , followed by addn. of FITC-labeled lac repressor protein, and detn. of bound repressor.

L13 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:163361 CAPLUS
DN 102:163361
TI Labelled nucleic acid probes and adducts for their preparation
IN Dattagupta, Nanibhushan; ***Crothers, Donald M.***
PA Molecular Diagnostics, Inc., USA
SO Eur. Pat. Appl., 25 pp. CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI EP 131830 A1 19850123 EP 1984-107624
19840702 EP 131830 B1 19861210 R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE US 4737454 A 19880412
US 1984-611668 19840518 CA 1222705 A1
19870609 CA 1984-455968 19840606 IN 161278
A 19871107 IN 1984-DE484 19840613 AT 24201
E 19861215 AT 1984-107624 19840702 ES 534156
A1 19851016 ES 1984-534156 19840710 AU 8430483
A1 19850117 AU 1984-30483 19840711 AU 567952
B2 19871210 IL 72374 A1 19890331 IL 1984-72374 19840711 DK 8403427 A 19850115 DK 1984-3427 19840712 DK 162124 B 19910916
DK 162124 C 19920217 JP 60039565 A2
19850301 JP 1984-146688 19840714 US 4959309
A 19900925 US 1987-107183 19871009
PRAI US 1983-513932 A 19830714 US 1984-611668
A 19840518 EP 1984-107624 A 19840702
AB Labeled nucleic acid probes (e.g., single- or double-stranded DNA, RNA, or their fragments) for the detn. of complementary sequences by ***hybridization*** are prepd. that comprise (1) a nucleic acid, (2) a photoreactive nucleic acid-binding ligand (e.g., an intercalator such as a furocoumarin or a nonintercalator such as HOE 33258) photochem. linked to the nucleic acid, and (3) a label (e.g., biotin, enzyme, fluorescent compd.) chem. linked to the nucleic acid-binding ligand. Thus, papain was treated with photoreactive 4'-aminomethyltrioxsalen in the presence of a cross-linking agent (dithiobissuccinimidylpropionate or di-Me suberimidate) to form a conjugate which is sepd. and mixed with DNA prior to irradn. at 390 nm for 1 h. The final product is a useful probe for DNA ***hybridization*** tests.

L13 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:109397 CAPLUS
DN 102:109397
TI Immobilized nucleic acid probe and solid support for nucleic acids
IN Dattagupta, Nanibhushan; ***Crothers, Donald M.***
PA Molecular Diagnostics, Inc., USA
SO Eur. Pat. Appl., 17 pp. CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI EP 130523 A2 19850109 EP 1984-107266
19840625 EP 130523 A3 19860723 EP 130523
B1 19880601 R: CH, DE, FR, GB, IT, LI, NL, SE US 4542102
A 19850917 US 1983-511064 19830705 US 4713326
A 19871215 US 1984-611667 19840518 CA 1215703
A1 19861223 CA 1984-455969 19840606 IL 72278
A1 19890731 IL 1984-72278 19840702 AU 8430256
A1 19850110 AU 1984-30256 19840704 AU 563558
B2 19870716 ES 534025 A1 19860516 ES 1984-534025 19840704 JP 60036496 A2 19850225 JP 1984-138046 19840705 JP 07005628 B4 19950125
PRAI US 1983-511064 A 19830705 US 1984-611667
A 19840518
AB A solid support is described which is capable of binding a nucleic acid upon suitable irradn., and is comprised of (1) a solid substrate, (2) a photochem. reactive intercalator compd. or other nucleic acid-binding ligand, and (3) divalent radical chem. linking the substrate and the ligand (2). Specifically, an OH group-contg. solid substrate such as nitrocellulose paper is linked via a bifunctional reagent such as CNBr or 1,4-butanediol diglycidyl ether to an amino-substituted angelicin or psoralen or ethidium bromide which in turn is photochem. linked to a nucleic acid. The resulting immobilized nucleic acid probe is capable of ***hybridizing*** with complementary nucleic acid fragments and is thereby useful in diagnostic assays. An example is given of activation of Sephadex G 25 or cellulose with 1,4-butanediol diglycidyl ether and coupling of 4'-aminomethyl-4,5',8-trimethylpsoralen. DNA was then photochem. coupled and used for sickle cell diagnosis.

L13 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:92537 CAPLUS
DN 102:92537
TI Testing DNA samples for particular nucleotide sequences
IN Dattagupta, Nanibhushan; Rae, Peter M. M.; ***Crothers, Donald M.***
PA Molecular Diagnostics, Inc., USA
SO Eur. Pat. Appl., 27 pp. CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE
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PI EP 130515 A2 19850109 EP 1984-107248
19840625 EP 130515 A3 19881005 R: DE, FR, GB
CA 1222680 A1 19870609 CA 1984-454942

19840523 JP 60036497 A2 19850225 JP 1984-138045 19840705
PRAI US 1983-511063 A 19830705
AB The title method consists of extg. nucleic acids from the test sample, digesting the extd. nucleic acids with restriction enzyme to cleave the DNA or not at a particular sequence, depending on whether or not a restriction enzyme recognition site is present in the sequence, treating the product to form single-stranded nucleic acids, contacting the single stranded nucleic acids with 1st and 2nd polynucleotide probes which are complementary to resp. 1st and 2nd portions of said sequence to be detected, the 2 portions being nonoverlapping and immediately adjacent to the restriction site in question. The contact is performed under conditions favorable to ***hybridization*** of said 1st and 2nd probes to the sequence to be detected, ***hybridization*** with both probes being dependent upon whether restriction did not occur, said 1st probe being incorporated with a distinguishable label, sepg., by means of said 2nd probe, any resulting dual ***hybridization*** product comprising the sequence to be detected ***hybridized*** to both labeled 1st probe and 2nd probe, from any unhybridized and singly- ***hybridized*** labeled 1st probe, and by means of the label detecting any sepd. dual ***hybridization*** product which may be present. The 2nd probe is preferably fixed to a solid support and can be used by mixing the 1st probe in soln. with the unknown and with the solid support carrying the 2nd probe, letting the mass stand under ***hybridizing*** conditions, sepg. the solid support, and detg. the presence and amt. of label attached to the solid support. Application of the title method is demonstrated with sickle cell anemia.

L13 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:17276 CAPLUS
DN 92:17276
TI Selective repression of transcription by base sequence specific synthetic polymers
AU Kosturko, L. D.; Dattagupta, N.; ***Crothers, D. M.***
CS Dep. Chem., Yale Univ., New Haven, CT, 06520, USA
SO Biochemistry (1979), 18(26), 5751-6 CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB The effect of novel synthetic polymers on DNA-directed RNA synthesis in vitro is reported. The polymers contained base-selective monomers, including a GC-specific phenazine deriv. and an AT-specific triphenylmethane dye. Radical chain polymn. was carried out in aq. soln. by monomers bound to a template DNA, which was obtained either from phage .lambda. or T7. Polymers were isolated and reannealed with DNA samples, including competitive mixts. of T7 and .lambda. DNAs. Transcription from DNA-polymer complexes was measured by using Escherichia coli RNA polymerase and both the redn. in total transcription levels and the relative inhibition of .lambda.- or T7-specific transcription were detd. by using a ***hybridization*** assay. The results showed that micromolar concns. of individual dyes are sufficient to cause substantial inhibition of transcription when the dyes are incorporated into polymers. More significantly, a no. of the polymers inhibited more strongly transcription from the DNA which had served as template for polymer synthesis than from the DNA present as competitor in the annealing process. Thus, template synthesis of DNA-binding polymers can lead to preferential inhibition of function of the original template. The apparent relative affinity of polymer for competing DNAs can be altered by at least an order of magnitude depending on which DNA was used as the synthesis template. The results offer a new approach to improving the specificity of DNA-binding drugs.

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L3 227 S L1 OR L2
L4 168 S L3 NOT 2005/PY
L5 89 S L4 NOT 2004/PY
L6 3494 S (SEQUESTER?(W)AGENT#)/BI,AB
L7 0 S L3 AND L6
L8 10 S ((SEQUESTER?(W)AGENT#)(20A)(PROB?))/BI,AB
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L11 239 S E4
L12 294 S L9 OR L10 OR L11
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